MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION

A REPORT ON A PUBLIC INQUIRY UNDER THE MANDATORY STANDARDS FOR THE QUALITY OF SERVICE

[22 JUNE 2002]

ABBREVIATIONS

ASP	Applications Service Providers
CASP	Content and Applications Service Providers
ESAT	Endpoint service availability testing
IASP	Internet Access Service Provider
ICT	Information and Communication technologies
ITU	Internal telecommunication unit
MCMC	Malaysian Communications and Multimedia Commission
NFP	Network Facility Provider
NITA	National Information Technology Agenda
NITC	National Information Technology Council
NSP	Network Service Provider
NITF	National Information Technology Framework
POI	Point of Interconnection
PSTN	Public Switched Telephone Network
QOS	Quality of Service
SLA	Service Level Agreements

GLOSSARY

Busy Period	The time duration between 9 a.m. to 12 p.m. and 2 p.m. to 5 p.m. on Monday to Thursday excluding public holidays.
Cellular Mobile Subscribers	Refers to users of portable telephone subscribing to an automatic public mobile telephone service, which provides access to the PSTN using cellular technology. This covers only digital cellular systems
CMA	The Communications and Multimedia Act 1998
Consumer	A person who receives, requires, acquires, uses or subscribes relating to communications and multimedia within the meaning of the Act.
Customer	A person who, for consideration, acquires uses or subscribes to services relating to communications and multimedia within the Act.
Customer Base	This refers to the number of subscribers for fixed line, with breakdown according to residential and business. In this case customers are synonymous to subscribers. Churn is taken into consideration by recording the nett subscribers and the derivation of the nett subscribers taking into consideration "new installation" and "disconnection" during the end of the reporting period. Churn is defined as the level of disconnects from the fixed line services relative to the total subscriber base of the system. Similarly for cellular phone, internet and other relevant services
Dial –Up Subscriber	This is a subscriber accessing the internet on through a dial-up account to access the internet access service provider via a local phone number. Dial-up subscribers can be a personal account or an organisational account.
Digital Cellular Subscribers	The number of mobile cellular subscribers that use digital cellular services e.g. GSM 900 PCN 1800 and others to be specified. This Includes pre-paid and post-paid subscribers.

Direct Exchange Line	The number of main telephone lines in operation (including suspended customer lines) connecting the subscriber's terminal equipment to the public switched network and which has a dedicated port in the telephone exchange equipment. The term is synonymous with the term main station or direct exchange lain which are commonly used in telecommunications documents. Terminated lines are not considered operational
National Policy Objectives	The national policy objectives for Malaysia's communications and multimedia industry as set out in S 3 of the CMA.
Prepaid	Prepaid figure is based on point of sale.
REG-Q 001	The Telecommunications Regulatory Framework for Service Quality in the Mobile Cellular Services
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REG -Q 002	The Telecommunications Regulatory Framework for Quality of Service in Fixed Telephone Services.
The Commission	The Malaysian Communications and Multimedia Commission

SECTION 1: SUMMARY AND CONCLUSIONS

1.1 Introduction

1.1.1 Under Sections 7 and 104(3) of the CMA the Minister had issued a Ministerial Direction on the Quality of Service, Direction No.1 of 2002 to the Commission to determine mandatory standards on the quality of service for public cellular services, Public Switched Telephone Network (PSTN), Internet access Service using dial-up connection, satellite broadcasting, terrestrial free to air TV and terrestrial radio broadcasting for the benefit of consumers of such services.

1.2 Public inquiry

1.2.1 The Commission embarked on a public inquiry on 8 April 2002 and released a Public Inquiry Paper on the Proposal for the Determination of Mandatory Standards for Quality of Service as part of the inquiry process. The paper contained:

(a) A preface
(b) The proposed quality of service framework and
(c) Questions forwarded for commenting purposes

1.2.2 Submissions were sought on

(a) The appropriateness of the items to be listed in the proposed framework
(b) Additional items/ service quality quotients that may warrant inclusion; and
(c) Responses to a imposing a mandatory service standard

1.2.3 The deadline for submissions was 12 noon, 23 May 2002. At the close of inquiry the Commission had received nine submissions. Please refer to Annexure A of this report, which carries the detailed comments. A summary of the comments /suggestions are contained in Section 5 of this Report, entitled “Findings”.

1.2.4 Given the fact that eight out of the nine submissions did meet the deadline, the Commission was obliged to consider the submissions. As such, any position in this Report emanates from the Commission’s deliberation of the submissions and a reassessment undertaken of various positions hitherto adopted.

1.3 Conclusions

1.3.1 The Commission is of the view that the current regulatory framework is no longer sufficient with the enactment of the CMA, given the changed licensing and market structures. These changes are due to the convergence of the telecommunication, broadcasting and on-line service industries. Such a convergence in industry thus requires a consolidated regulatory framework that is comprehensive and relevant.

1.3.2 The rapid growth in the multimedia and communications sector has increased the array of choices available to the consumer. However there have been much valid complaints / concerns about the quality of the services offered which resulted in a Ministerial direction to the Commission to come up with a mandatory quality of service obligations in respect of Public Switched Telephone Network Service (PSTN), Public cellular Services, Internet Access Services through dial-up connection and Content Applications Services (satellite broadcasting, terrestrial free to air TV and terrestrial radio broadcasting). There is a need in the view of the Commission to ensure that the consumer is afforded with an ability to enjoy an efficient, fair and reasonable quality of services. The imposition of mandatory standards for the quality of service is aimed at recognizing, promoting and protecting the rights of the consumer.

1.3.3 In a climate of intensifying competition, expanding array of product and service choices, the entry of new participants and increasing levels of user awareness, issues pertaining to service trouble, service restoration, operator responsiveness (speed of answer), trunk call connection losses (both intra network service and inter network service), billing performance and the handling, processing and resolving of general consumer complaints and endpoint service performance, are pertinent measures that should be reflected in a quality-conscious regime. Increased satisfaction on the part of the consumer with the quality of a service will increase the propensity of the consumer to use the service/product in the future.

1.3.4 The mandated standard of service is thus a minimum standard that is aimed at enhancing communication and understanding between the consumer and the industry; which will invariably lead to confidence building on the part of consumers which will foster greater use of services in the long-term.

1.3.5 The Commission is of the view that the industry as a whole being subjected to a mandated quality of service standard would give rise to quality consciousness and best industry practices that act as an ideal platform for companies with regional or global ambitions to launch or expand their business operations. This is necessary given that technology, knowledge and capital are no longer confined to national boundaries. Thus our business models and practices must be in sync with global norms and expectations.

1.3.6 The Commission is further cognisant of the fact that such a drive will no doubt come at a cost to the industry. There would be initial and ongoing costs that may be incurred. Such costs include the cost of educating and training staff, policy development and enhancement, employment of staff, compliance monitoring costs and volume related costs in anticipation of building capacity to handle more/increased complaints or outsourcing such functions to a professional call centre. These costs are dependent on the level and complexity of the current policies and practices followed. Technical feasibility considerations have also been considered.

1.3.7 The Commission is of the opinion that the mandatory standards in quality of service imposed are capable of implementation from a financial and technical standpoint. The Commission recognises that there is a cost involved to industry in the process of recording, reporting, analysing and adhering to such indicators. The quality of service indicators has therefore been carefully selected so as not burden the industry unduly. The choice of indicators to be complied with, are those that are considered most appropriate and relevant measures to the consumer. The Commission is of the view that a push towards higher standards will catapult the local industry towards providing excellent services and globally competitive.

1.3.8 The standards fixed are not to onerous and have been set in line with existing regulatory frameworks and standards that are internationally competitive.[1]

1.3.9 The standards on the quality of service are further clarified through clear **definitions** that avoid ambiguity of the concept / parameters involved. The **standard, measurement and reporting** procedures are clear and precise to facilitate clear-cut compliance on the part of industry.

1.3.10 The Commission believes that this framework on quality of service is consistent with the objective of the CMA to promote, license and regulate the communications and multimedia industry. In particular the Commission believes that such a quality consciousness will:

(a) establish Malaysia as a global center and hub for communications and multimedia information and content services;
(d) promote a high level of consumer confidence in service delivery from the industry;
(e) ensure an equitable provision of affordable services over ubiquitous national infrastructure;
(g) create a robust applications environment for end-users;

1.3.11 The mandated standard for the quality of service levels do not discriminate between individual consumers and businesses that have contracted for, are recipients of, or users of the above services.

1.3.12 A uniform, minimum, mandatory quality of service standard shall thus apply across the board for the benefit of all consumers with no distinctions made for divergences in what is deemed an acceptable standard of service given different expectations, levels of sophistication and familiarity with technology amongst other things. The mandatory quality of service standard, it must be reiterated is a minimum compliance standard only.

1.3.13 The Commission hopes that with the imposition of a mandated quality of service, the regulation of quality in the communications and multimedia industry will become more comprehensive and coherent, and act as a catalyst towards the realisation of the objectives of the Framework of Industrial Development.

[1] Examples include the Australian Communications Industry Forum Codes on Billing,, End-to End Network Performance and Complaint Handling. See also the Quality of Service Standards imposed by the Infocomm Development Authority of Singapore.

1.3.14 The Commission is of the view that there should be four separate Determinations issued on the Quality of Service for each category, as this is operationally more feasible; and allows for easy amendments and reference in the near future.

1.3.15 The Commission will require all affected parties to undertake a minimum of two independents audits to ensure that data collected and reported is accurate.

1.4 This Report captures the conclusions above and makes reference to the Commission's proposed quality of service framework in the following manner:

Section 2 provides a background on the current regime outlining key components of the current quality of service regime.

Section 3 describes a framework for the proposed mandated quality of service standards to be regulated by the Commission under S 123 of the CMA in its role as a monitor and gauge of industry performance.

Section 4 highlights the methodology used to evaluate the input emanated from the public inquiry.

Section 5 paraphrases the public input received

Section 6 highlights the way forward on quality of service principles.

SECTION 2: BACKGROUND

2.1 The current regime

2.1.1. Currently there are two telecommunications regulatory frameworks for the quality of service namely The Telecommunications Regulatory Framework for Service Quality in the Mobile Cellular Telephone service, REG-Q001 and the Telecommunications Regulatory Framework for Quality of Service in the Fixed Telephone Service, REG-Q 002. These documents are retained under S275 of the CMA.

2.1.2 REG-Q 001 outlines the regulatory requirements for service quality for the mobile cellular phone users. The service quality indicators are as follows:

(a) endpoints service availability;
(b) interconnect endpoints service availability;
(c) customer satisfaction;
(d) percentage nation-wide service coverage, on street coverage and in building coverage;
(e) customer service complaints and
(f) network elements annual availability.

2.1.3 REG Q-002 outlines the regulatory requirements for service quality for the fixed telephone service. The quality of service objectives for intra network (is defined as network of one network operator) is as follows:

(a) installation time;
(b) service reliability;
(c) service restoration;
(d) dial tone delay (start dial signal delay);
(e) post dialing delay;
(f) call connection within one operator's network;
(g) billing complaints;
(h) operator assisted services; and
(i) general customer complaints.

2.1.4 Both REG-Q 001 and 002 state that if any quality indicators fall below the minimum target, the service operator is to immediately initiate remedial action either on its own if it is within their network service or in consultation with the relevant service provider for interconnected services. There are no penalties prescribed under these documents.

2.1.5 The four mandatory standards proposed for are for quality of services in Public cellular telephony services, PSTN services, Internet dial-up access and content applications [satellite broadcasting, terrestrial free to air TV broadcasting and terrestrial radio broadcasting]. In the event of non-compliance, the Commission may take action against the licensee as such non-compliance is breach of S 105(3) of the CMA. S 242 of the CMA makes this breach an offence for which the offender shall be liable to a fine not exceeding one hundred thousand ringgit or to imprisonment for a term not exceeding two years or both.

2.1.6 Additionally the Commission has been conducting regular independent assessments to gauge and get a feel of the consumers' perception of quality-based services via Consumer Satisfaction Surveys. These surveys emphasise the experiential component of the consumer in gauging the quality of service as it is considered viable in light of the long-term commercial prospects or viability of such services. This is as opposed to evaluations based on pricing or advertising, which are considered short-term factors in determining customer loyalty.

2.1.7 The Commission also conducts tests and audits on specific areas, to ascertain the quality of service enjoyed by consumers. The quality of service benchmark is an objective measure of service quality and encompasses customer service, billing practices and network performance.

2.1.8 The Commission recognizes the importance of evaluating the quality of service from both a technical and a non-technical perspective as it is recognized that a benchmark must be meaningful to the customer and enable the latter to assess and make informed decisions on the level of quality received.

SECTION 3: PROPOSED FRAMEWORK FOR QUALITY OF SERVICE CONSIDERATIONS

3.1 The four mandatory standards proposed are for quality of services are for:

(a) Public cellular services
(b) PSTN services
(c) Internet dial-up access and
(d) Content applications [satellite broadcasting, terrestrial free to air TV broadcasting and terrestrial radio broadcasting]

It is further proposed that there be four separate determinations for each service. In review and development of the new quality of service standards and measurements, the principles to be adopted should make use of:

(a) data obtained from record keeping requirements and
(b) observed measurements by the licensees.

Measurement systems and equipment are to be with the licensees or the Commission, as the Commission of the view that they should be in possession of such test systems in an effort to monitor service quality continuously. Observations of measurements may be by the Commission staff. In some cases, the tests can be carried out by a third party and observed by licensees and the Commission.

3.2 Public Switched Telephone Network (PSTN) Service

This section applies to all Applications Service Providers (ASP) providing PSTN services. The proposed quality of service framework is as follows:

3.2.1 Performance of Installation Orders

Definition

Installation Time is the time taken from signing of agreement on-line or at the business outlet or the mutually committed start time to the time when the basic telephone service is provided. Relocation with no number change is to be included. Public holidays and weekends are excluded from the above consideration. This applies to both residential and business installation orders. The above time duration is made with the assumption that internal telecommunication wiring and network infrastructure are available for service.

Standard

70% of applicants should receive service within 24 hours.

80% of applicants should receive service within 48 hours.

All applicants should receive service not later than 7 working days (excluding weekends and public holidays) or within the mutually agreed or committed deadlines.

Measurement

The measurement of the standard shall be based on the data collected and submitted by the ASP. Installation orders not met due to the following may be excluded from the count:

(a) Wrong address given by customer;
(b) Network infrastructure damaged due to natural disaster(s) or by third party;
(c) Customer premises closed or inaccessible;
(d) Customer internal wiring not ready at the committed or agreed time;
(e) Installation order withheld due to payment (deposit and any upfront payments) trouble; and
(f) Customer cancels or defers agreed appointment time.

Reporting

The data is to be checked and reported to the Commission by the ASP not later than six weeks after 30 June for reporting period January to June, and 31 December for reporting period July to December respectively. The report shall include Total Installations for the Period with further breakdown as Total Installations Within 24 Hours and Total Installations Within 48 Hours.

3.2.2. Service Trouble Report Rate

Definition

This relates to the number of reported troubles on PSTN application service by the customer to the reporting center per 1000 lines per year. It is described by the following ratio:

$$\frac{\text{Total number of cumulative troubles over a 12 months rolling period x 1000}}{\text{Total number of exchange lines at the end of each reporting period}}$$

Standard

Less than 500 faults reported per 1000 lines per year.

Measurement

Trouble reports are classified as all types of troubles on PSTN service which are reported to the reporting center by the end-user and which are confirmed by the PSTN application service provider. Trouble reports, which may be excluded from the count, are:

(a) Trouble with Customer Premise Equipment or infrastructure such as internal wiring;
(b) Cable cuts not due to service provider;
(c) Faults due to other service provider(s);
(d) Customer not knowing how to use the service;
(e) Modem speed trouble report if the line has been checked and found to meet the standard;
(f) Network problem caused by another's network; and
(g) Problems caused by delays in level openings of new numbering blocks by other networks.

The measurement of the standard shall be based on the data collected and submitted by the ASP. Calculation is based on a 12 months rolling basis.

Reporting

The report should be checked and submitted to the Commission by the ASP not later than six weeks after 30 June for the reporting period January to June, and 31 December for July to December respectively. The data is to be reported as Total Number of Trouble Reported for the Period with a further breakdown of Trouble Reported by region for the Period.

3.2.3 Service Restoration Performance

Definition

This relates to the action taken to restore a fault from the time it was reported by the customer to the time of restoration. The restoration time is calculated from the time of report to the time of restoration, including Weekends and public holidays.

Standard

80% within 24 hours.

90% within 48 hours.

Measurement

The measurement of the standard shall be based on the data collected and submitted by the ASP. The following are excluded from consideration for service restoration performance:

(a) Trouble with Customer Premises equipment;
(b) Cable cut not due to service provider;
(c) Fault due to other service providers;
(d) Customer premises closed or inaccessible;
(e) Damage to network as a consequence of natural disaster(s) or third parties; and
(f) Deferment to restore request by customer.

Reporting

The report should be checked and submitted to the Commission by the ASP not later than six weeks after 30 June for reporting period January to June, and 31 December for reporting period July to December. The data is to be reported as Total Number of Services Restored for the Period with further breakdown as Total Number of Services Restored Within 24 Hours and Total Number of Services Restored Within 48 Hours.

3.2.4 Billing Performance

Definition

This relates to the integrity and reliability of the billing system and is reflected in the accuracy in billing and timeliness in resolving any billing disputes.

Standard

(a) Accuracy in billing – Less than 2% of billing complaints

$$\frac{\text{Total number of billing complaints x 100}}{\text{Total number of bills issued over a 12 months rolling period}}$$

(b)Timeliness in resolving billing dispute

90% of complaints resolved within 14 working days

95% of complaints resolved within 30 working days.

Measurement

All complaints on each bill are taken as one complaint. Fraud complaints and wrong address on the bill are not taken into consideration. However, these types of complaints are to be reflected in the breakdown of Types and Number of Billing Complaints Received. The types of billing complaints could include but is not limited to:

(a) payment made & wrongly / not credited;
(b) double charges;
(c) deposit not refunded;
(d) bill received late;
(e) bill not received;
(f) fraud complaints;
(g) wrong address on the bill; and
(h) other billing errors.

The measurement of the standard shall be based on the data collected and submitted by the ASP.

Reporting

The report on billing accuracy, timeliness in resolving billing disputes and the breakdown of Types and Number of Billing Complaints Received should be checked and submitted to the Commission by the ASP not later than six weeks after 30 June for reporting period January to June, and 31 December for July to December respectively. The ASP shall be required to prove the integrity of his billing system on an annual basis to the Commission by using a minimum sample size of 50 in evaluating the accuracy of billing charges.

3.2.5 General Customer Complaints

Definition

This relates to any general complaint received on service matters including, but are not limited to, late or no installation, late or no restoration after a fault complaint, poor line quality, staff or contractor conduct, and customer services. It is described by the ratio:

$$\frac{\text{Total number of cumulative complaints received over a 12 months rolling period x 1000}}{\text{Total number of exchange lines at the end of each reporting period.}}$$

Fault reports and billing complaints are excluded as they are reported separately.

Standard

Less than 50 per 1000 lines per year

Measurement

The types of General Customer Complaints to include could be but is not limited to:

(a) wrong information given;
(b) waivers not given;
(c) unprofessional conduct of staff / agents;
(d) unavailability of service;
(e) late service installation and provision;
(f) late service restoration; and
(g) unsatisfactory installation / restoration / repair.

The measurement of the standard shall be based on the data collected and submitted by the ASP. Calculation is based on a 12 months rolling basis.

Reporting

The report should be checked and submitted to the Commission by the ASP not later than six weeks after 30 June for reporting period January to June, and 31 December for July to December respectively. The data is to be reported as Total Number of General Customer Complaints for the Period with further breakdown by Types and Number of Complaints Received.

3.2.6 Operator Speed of Answer

Applies to all operator assisted services including but not limited to Directory Service, Emergency Service, Service Enquiry, Help Desk, Fault and Repair Service, Operator assisted international and national calls, etc.

Definition

This relates to calls answered by telephone operators (live persons) including machine answered calls. If an automatic answer machine is included in as an integral part of the service, the waiting time before the live operator comes in shall be included in the answering time.

Standard

90% of calls to be answered within 10 seconds for emergency calls. The remaining 10% of the calls must be answered within 20 seconds. Less than 1% of calls shall encounter a busy signal.

Measurement

The measurement of the standard shall be based on test call sampling or service observation done during a normal busy hour of a Busy Period at least once a year. The data to be collected are on the total number of busy, number of calls received and the total numbers answered within 10 seconds for emergency calls and 20 seconds for others. Calculation shall be based on these test calls or service observation. For test call sampling method, the minimum sampling size will be 30 test calls.

Reporting

No reporting is required. The data collected through test calls or service observation will be done by the service providers or appointed third parties and observed by the Commission.

3.2.7 National Call Connection Loss (Intra Network Service)

Definition

This relates to national calls that are lost while trying to get through the network from an originating or trunk switch to a terminating switch with a different trunk code of the same network service. It may be due to network congestion and technical fault (total network breakdown excluded). It is described by the ratio:

$$\frac{\text{Number of call failure} \times 100}{\text{Total number of calls sampled / observed in the busy hour period}}$$

Standard

Less than 6%

Measurement

The measurement of the standard shall be based on test call sampling or service observation done at least once a year. Calculation shall be based on these test calls or service observation.

All calls that cannot be established due to technical faults (such as poor network quality, incorrect signaling, etc, excluding total network breakdown) and network congestion are included in the count.

For test call sampling method, the minimum sampling size will be 30 test calls per trunk code area, in the busy hour period.

Reporting

No reporting is required. The data collected through test calls or service observation will be done by the service providers or appointed third parties and observed by the Commission.

3.2.8 National Call Connection Loss (Inter Network Service)

Definition

This relates to national calls that are lost while trying to get through the network from an originating or trunk switch at Point-of-Interconnect (POI) to a terminating switch with a different trunk code of a different network service. It may be due to network congestion and technical faults (total network breakdown excluded). This is described by the ratio:

$$\frac{\text{Number of call failure} \times 100}{\text{Total number of calls sampled / observed in the busy hour period}}$$

Standard

Less than 6% at any Point-of-Interconnection (POI)

Measurement

The measurement of the standard shall be based on test calls or service observation done at least once a year.

Test calls or service observation done during a busy hour of the Busy Period as viewed from Point-of-Interconnection (POI) (i.e. viewed from one network to another operator's network) is used to derive the measurement. Randomly selected POIs shall be included for the purposes of measurement.

All calls that cannot be established due to technical faults (such as poor network quality, incorrect signaling, etc, excluding total network breakdown) and end-to-end network congestion are included in the count. For test call method, the minimum sample size is 30 per POI. Calculation shall be based on test calls measurements or service observation.

Reporting

No reporting is required. The data collected through test calls or service observation will be done by the service providers or appointed third parties and observed by the Commission.

3.2.9 Post Dialing Delay (Intra and Inter Network Service)

Definition

This is defined as time interval between the end of user or terminal equipment dialing a domestic destination number and the reception of the appropriate network response.

Standard

Inter network post dialing delay for 95% of call attempts between two different operators network should be less than 13 seconds.

Intra network post dialing delay for 95% of call attempts should be less than 10 seconds.

Measurement

The measurement of the standard shall be based on test call sampling or service observation done at least once a year. Calculation shall be based on these test calls or service observation.

All calls that cannot be established due to technical faults (such as poor network quality, incorrect signaling, etc. excluding total network breakdown) and network congestion are included in the count. For test call sampling method, the minimum sampling size will be 30 calls per area.

Reporting

No reporting is required. The data collected through test calls or service observation will be done by service providers or appointed third parties and observed by the Commission.

3.3 Public Cellular Applications Service

This section applies to Applications Service Providers (ASP) providing Public Cellular Telephone Applications Service. The proposed service quality framework is as follows:

3.3.1 Billing Performance

Definition

This relates to the integrity and reliability of the billing system and is reflected in the accuracy in billing and timeliness in resolving any billing disputes.

Standard

(a) Accuracy – Less than 2% of billing complaints

$$\frac{\text{Total number of billing complaints x 100}}{\text{Total number of bills issued over a 12 months rolling period}}$$

(b) Timeliness in resolving billing dispute or

90% up to a maximum duration of 14 working days

95% up to a maximum duration of 30 working days.

Measurement

All complaints on each bill are taken as one complaint. Fraud complaints and wrong address on the bill are not taken into consideration. However, these types of complaints are to be reflected in the breakdown of Types and Number of Billing Complaints Received.

The types of billing complaints to include could be but is not limited to:

(a) payment made & wrongly / not credited;
(b) double charges;
(c) deposit not refunded;
(d) bill received late;
(e) bill not received;
(f) fraud complaints;
(g) wrong address on the bill; and
(h) other billing errors.

The measurement of the standard shall be based on the data collected and submitted by the ASP.

Reporting

The report on billing accuracy, timeliness in resolving billing disputes and the breakdown of Types and Number of Billing Complaints Received should be checked and submitted to the Commission by the ASP not later than six weeks after 30 June for reporting period January to June, and 31 December for reporting period July to December respectively. The ASP shall be required to prove the integrity of his billing system on an annual basis to the Commission by using a minimum sample size of 50 in evaluating the accuracy of billing charges.

3.3.2 General Customer Complaints

Definition

This relates to any general complaint received on service matters including, but are not limited to, late or no service activation, late or no service restoration after a service coverage outage complaint, poor line quality, inefficient value added services, staff or contractor conduct, and customer services. It is described by the ratio:

$$\frac{\text{Total number of cumulative complaints over a 12 months rolling period x 1000}}{\text{Numbers which are active}}$$

Fault reports and billing complaints are excluded.

Standard

Less than 20 service complaints per 1000 numbers per year.

Measurement

The types of General Customer Complaints to include could be but are not limited to:

(a) wrong information given;
(b) waivers not given;
(c) unprofessional conduct of staff / agents;
(d) unavailability of service;
(e) late service provision;
(f) late service restoration;
(g) disruption of service;
(h) erroneous service disconnection or suspension; and
(i) pre-paid reload amount not credited.

The measurement of the standard shall be based on the data collected and submitted by the ASP. Calculation is based on a 12 months rolling basis.

Reporting

The report should be checked and submitted to the Commission by the ASP not later than six weeks after 30 June for reporting period January to June, and 31 December for reporting period July to December respectively. The data is to be reported as Total Number of General Customer Complaints for the Period with further breakdown by Types and Number of Complaints Received.

3.3.3 Endpoints Service Performance

Definition

Endpoints are defined as the interface between the customer and the equipment providing access to the service.

Endpoints Service Availability (ESA) is defined as the percentage of time a usable call can be established and maintained between two endpoints. It is described by the ratio:

$$\frac{[\text{No. of calls attempts-No. of calls blocked-No. of calls dropped}] \times 100}{\text{Total number of calls attempt}}$$

Number of blocked calls are those times where there is no free channel to serve a call attempt. Number of calls dropped are those where a connection has been successful (network accessed, set-up successful, communication channel assigned) but was disconnected due to abnormal call release.

This assessment is done from the view of what the customer gets from their ends.

Standard

ESA better than 90% of intra network calls.

ESA better than 90% of inter network calls.

Less than 5% of dropped calls for intra network calls.

Measurement

Measurement is done through test measurements al least once a year. The derived data from testing shall be for intra and inter network endpoints service availability and will be based on a system drive test and static test. The drive and static test data shall contribute in a 50:50 ratio respectively to the composite ESA. The drive tests shall be on main routes whereas static tests shall be mainly in public access, business and commercial locations. For inter network tests, the terminating endpoint shall be a test number attached to the mobile switching center.

The test call sequence for the system drive test and the static test is as follows:
Call holding time is set to last 60 seconds with another 5 seconds interval time. If any call is blocked or dropped, it stays at idle for the rest of the call duration until the next attempt is made.

System Drive Test

This test will be done in areas to be identified by the MCMC based on the areas with service coverage as provided by the service providers to their customers. Each area would require 200km or about 5 hours driving time, on average, and would pass, as many as possible, main roads, public access and hot spot areas within each area.

The maximum speed of the drive shall be not exceed the speed limits in the city and highways. A minimum sample of 30 calls for each network will be required for each area. This test is done on intra network only. The dedicated originating and terminating mobile unit's antenna shall be placed at the same height and in the same vehicle. This test is to be done on business days only.

Static Test

This test will be done in areas to be identified by the MCMC based on areas with service coverage as provided by the service providers to their customers. A minimum sample of 30 calls each for inter and intra network calls per network will be required for each area. The tests are done on the same spot. This test is to be done on business days only.

Reporting

No reporting is required. The data collected through test calls or service observation will be done by the service providers or appointed third parties and observed by the Commission.

3.3.4 Operator Speed of Answer

Applies to all operator assisted services including but not limited to Directory Service, Emergency Service, Service Enquiry, Help Desk, Fault and Repair Service, Operator assisted international and national calls, etc.

Definition

This relates to calls answered by telephone operators (live persons) including machine answered calls. If an automatic answer machine is included in as an integral part of the service, the waiting time before the live operator comes in shall be included in the answering time.

Standard

90% of calls to be answered within 10 seconds for emergency calls. The remaining 10% of the calls must be answered within 20 seconds. Less than 1% of calls shall encounter a busy signal.

Measurement

The measurement of the standard shall be based on test call sampling or service observation done during a normal busy hour of a Busy Period at least once a year. The data to be collected are on the total number of busy, number of calls received and the total numbers answered within 10 seconds for emergency calls and 20 seconds for others. Calculation shall be based on these test calls or service observation. For test call sampling method, the minimum sampling size will be 30 test calls.

Reporting

No reporting is required. The data collected through test calls or service observation will be done by the service providers or appointed third parties and observed by the Commission.

3.4 Internet Access Services

This section applies to Applications Service Providers providing Dial-Up Internet Access Service. The proposed service quality framework is as follows:

3.4.1 Dial Up Performance

Definition

This relates to the number of attempts and time to access the IASP node and it includes the time from the dial command until the "log-in" is completed as well as the average file download time for a standard graphic or random text file of approximately 30Kbytes from a local web site.

Standard (Applies to any IASP node)

Time to access – 95% of attempts are connected within 40 seconds

Probability of access to IASP node – 95% within three attempts; with each attempt spaced at 1 minute intervals.

Average File download time – 80% modem line speed at least 95% of the time.

Measurement

Measurement is made based on a standard ITU v.90 modem accessing the nearest IASP node and downloading a standard file.
The standard user end computer configuration is a minimum of Pentium III/Equivalent and 128Mbyte memory running only a standard browser application.
The measurement of the standards shall be based on test calls or service observation for randomly selected IASP nodes, at least once a year.
For test calls, the minimum sample size is 30 per IASP node.

Reporting

No reporting is required. The data collected through test calls or service observation will be done by the service providers or appointed third parties and observed by the Commission.

3.4.2 General Customer Complaints

(This applies to dial up customers only)

Definition

This relates to any general customer complaints received on service matters including but are not limited to, matters such as unavailability, inaccessibility or instability of service, transmission speed is not as promised and other customer service complaints. It is described by the ratio:

$$\frac{\text{Total number of cumulative complaints received over a 12 months rolling period x 1000}}{\text{Customer base at the end of each reporting period}}$$

Standard

Less than 50 complaints per 1000 customers per year.

Measurement

The types of General Customer Complaints could include but is not limited to:

(a) inaccurate information given;
(b) unprofessional conduct of staff / agents;
(c) unavailability of service;
(d) service disruption;
(e) late service provision; and
(f) late service restoration.

The measurement of the standard shall be based on the data collected and submitted by the ASP. Calculation is based on a 12 months rolling basis.

Reporting

The report should be checked and submitted to the Commission by the ISP not later than six weeks after 30 June for reporting period January to June, and 31 December for reporting period July to December respectively. The data is to be reported as Total Number of Complaints for the Period with further breakdown by Types and Number of Complaints Received.

3.4.3 Billing Performance

Definition

This relates to the integrity and reliability of the billing system and is reflected in the accuracy in billing and timeliness in resolving any billing disputes.

Standard

(a) Accuracy in billing – Less than 2% of billing complaints

$$\frac{\text{Total number of billing complaints x 100}}{\text{Total number of bills issued over a 12 months rolling period}}$$

(b) Timeliness in resolving billing disputes

90% of complaints resolved within 14 working days

95% of complaints resolved within 30 working days.

Measurement

All complaints on each bill are taken as one complaint. Fraud complaints and wrong address on the bill are not taken into consideration. However, these types of complaints are to be reflected in the breakdown of Types and Number of Billing Complaints Received. The types of billing complaints could include but are not limited to:

(a) payment made & wrongly / not credited;
(b) double charges;
(c) deposit not refunded;
(d) bill received late;
(e) bill not received;
(f) fraud complaints;
(g) wrong address on the bill, and
(h) other billing errors.

The measurement of the standard shall be based on the data collected and submitted by the ASP.

Reporting

The report on billing accuracy, timeliness in resolving billing disputes and the breakdown of Types and Number of Billing Complaints Received should be checked and submitted to the Commission by the ISP not later than six weeks after 30 June for reporting period January to June, and 31 December for reporting period July to December. The ISP shall be required to prove the integrity of his billing system on an annual basis to the Commission by using a minimum sample size of 50 in evaluating the accuracy of billing charges.

3.5 Content Applications Service

This section applies to all Content Applications Service Providers (CASPs) i.e. Satellite, Terrestrial, Video and Audio broadcasting providing TV and Radio FM broadcasting service (excluding broadcasting done over the web).

3.5.1 Annual Service Availability

Definition

This relates to the availability of the service to the customers. It captures the total transmission downtime or disruption to the service due to service failure including but are not limited to, failure in the feed and or transmission over the period of one year. It is described by the ratio:

$$\frac{\text{Total time of transmission per year-Total downtime per year} \times 100}{\text{Total time of transmission per year}}$$

Standard

99% per year.

Measurement

The measurement of the standard shall be based on the data collected for each transmitter service area and submitted by the ASP. The standard is calculated for each transmitter service area and averaged for the overall service. Calculation is based on a 12 months rolling basis.

Reporting

The report should be checked and submitted to the Commission by the CASP not later than six weeks after 30 June for reporting period January to June, and 31 December for reporting July to December. The data to be reported here is the number of hours downtime per year per transmitter service area.

3.5.2 Billing Performance

Applies only to CASPs providing subscription services.

Definition

This relates to the integrity and reliability of the billing system and is reflected in the accuracy in billing and the timeliness in resolving any billing disputes. It is described by the ratio:

Standard

(a) Accuracy – Less than 2% of billing complaints.

$$\frac{\text{Total number of billing complaints} \times 100}{\text{Total number of bills issued over a 12 months rolling period}}$$

(b) Timeliness in resolving billing disputes

90% up to a maximum duration of 14 working days

95% up to a maximum duration of 30 working days.

Measurement

All complaints on each bill are taken as one complaint. The types of billing complaints include but are not limited to:

(a) payment made & wrongly / not credited;
(b) double charges;
(c) deposit not refunded;
(d) bill received late;
(e) bill not received;
(f) fraud complaints;
(g) wrong address on the bill, and
(h) other billing errors.

Fraud complaints and wrong address on the bill are not taken into consideration. However, these types of complaints are to be reflected in the breakdown of Types and Number of Billing Complaints Received.

The measurement of the standard shall be based on the data collected and submitted by the CASP.

Reporting

The report on billing accuracy, timeliness in resolving billing disputes and the breakdown of Types and Number of Billing Complaints Received should be checked and submitted to the Commission by the CASP not later than six weeks after 30 June for reporting period January to June, and 31 December for reporting period July to December. The CASP shall be required to prove the integrity of his billing system on an annual basis to the Commission by using a minimum sample size of 50 in evaluating the accuracy of billing charges.

3.5.3 General Customer Complaints

Applies only to CASPs providing subscription services.

Definition

This relates to any general customer complaints received on service matters including but are not limited to, matters such as unavailability, inaccessibility or instability of service, transmission speed is not as promised and other customer service complaints. It is described by the ratio:

$$\frac{\text{Total number of cumulative complaints received over a 12 months rolling period x 1000}}{\text{Customer base at the end of each reporting period}}$$

Standard

Less than 50 complaints per 1000 customers per year.

Measurement

The types of General Customer Complaints could include but is not limited to:

(g) inaccurate information given;
(h) unprofessional conduct of staff / agents;
(i) unavailability of service;
(j) service disruption;
(k) late service activation; and
(l) late service restoration.

The measurement of the standard shall be based on the data collected and submitted by the CASP. Calculation is based on a 12-month rolling basis.

Reporting

The report should be checked and submitted to the Commission by the CASP not later than six weeks after 30 June for reporting period January to June, and 31 December for reporting period July to December. The data is to be reported as Total Number of Complaints for the Period with further breakdown by Types and Number of Complaints Received.

SECTION 4: METHODOLOGIES USED TO ANALYSE INPUT FROM PUBLIC INQUIRY

4.1 Aim of methodologies used

4.1.1 The methodology incorporated must translate into a meaningful measurement of the quality of communication services taking into consideration the broad array and profile of users.

4.2 National policy objectives

4.2.1 The Commission further believes that national policy objectives should act as a background against which all comments/information given should be evaluated. In particular the Commission feels that a mandatory quality of service obligation standard is in tandem with the aim to establish Malaysia as a global centre and hub for communications and multimedia information and content services. It will equally be pertinent in our intent to achieve a high level of consumer confidence in the industry.

4.2.2 These according to S 3(2) of the CMA are:

a)	To establish Malaysia as a major global center and hub for communications and multimedia information and content services;
d)	To regulate the long-term benefit of the end-user;
e)	To promote a high level of consumer confidence in service delivery from the industry;
g)	To create a robust applications environment for end-users;

4.2.3 This framework also takes into account the objectives and aims of the **Framework of Industrial Development** that recognises the integration of the communication and computer industries. As an industry it contributes immensely to the national economic and industrial development and growth The macro objectives of this policy aim at creating an educated and information-rich society through a modern and sophisticated telecommunications network. The objectives of the above include the provision of modern sophisticated and quality communications services at a reasonable cost. The Commission further believes that a mandatory quality of service standard would encourage the growth of value added services to facilitate long-term industry development.

4.2.4 This further encourages competitiveness in a healthy and orderly manner; as such an approach would result in efficiency and excellent service quality levels. This is expected to strengthen and develop further basic communications services, value added communications services and a superhighway network infrastructure in an effort to use technology to support national development and national aspirations as we usher in a new technology based century.

4.2.5 In an effort to be competitive therefore, the Commission feels that the mandated quality of service standards would be in consonance with the larger aspiration of the nation to be competitive on a global scale, which will necessitate edges in price, quality, delivery and costs. This will lead to service excellence and make the nation a global hub in this sector.

4.3 Cost benefit analysis

4.3.1 In assessing whether a proposed mandatory quality of service standard would promote the national policy objectives, the Commission proposes to undertake a cost benefit analysis of the relevant issues to assess the economic case for the imposition of such a mandatory standard of service.

4.3.2 Broadly, this would involve an assessment of the benefits of imposing such a mandatory standard and comparing it to the costs associated with the imposition of such a standard. Wherever practicable, the Commission would try to quantify the expected costs and benefits.

4.3.3 The proposed quality indicators will translate into a cost to the Commission as far as its monitoring role is concerned, whilst for industry this would translate into a cost in terms of compliance.

4.3.4 A quantitative analysis of the costs and benefits will not always be practicable.[2] Furthermore the terms " cost" and " benefit" is to be interpreted broadly and is not limited to items, which are quantifiable. This is because in the evaluation of the quality of service, both the intrinsic and perceived quality of service comes into play. Given the multidimensional definition of quality, the Commission is of the view that more emphasis should be placed on the intrinsic quality of service as this is affords us with an objective criteria of evaluation. Notwithstanding the Commission is cognizant of the fact that a mandated standard for the quality of service has at its core the promotion of a high level of user-confidence.[3] Any measure of quality as such should be both meaningful and capable of being interpreted and understood by the user.

4.3.5 The perceived quality of service is the perception of the user of the quality of such a service when it is actually used. The user experiences the effects of intrinsic service quality on his/her communication activities and the service environment-for example in how the service provider handles their demands; and reacts to the experience in light of his/her personal expectations. In short, expectations of quality here are conditioned by the users' experience.

[2] The Commission would take into account not only the initial and ongoing costs involved but also the opportunity costs implicit in any delay of implementation etc.
[3] See S3(2) CMA

4.3.6 An intrinsic quality of service refers to a standard of service quality that should be competitive in the marketplace. It is gauged by measures of operational performance characteristics and verified by demonstration. These scores must compare favourably with analogous scores of competing services. Examples include the technical design of the transport network and terminations, provisioning of network access, terminations, and switch-to-switch links that determine whether the network has adequate handling capacity.

4.3.7 The Commission does not take the view that a cost-benefit analysis is the only methodology, which should be used to analyse the relevant issues. Nevertheless, the Commission believes that a cost-benefit analysis usually provides a reasonably rigorous framework for analysing many of the issues relevant to a mandated quality of service standard.

4.3.8 The following broad steps will be used in the cost-benefit analysis:

(a) Identification of the relevant parties that would be affected by the imposition of a mandated quality of service standard.
(b) Identify and where practicable, quantify the expected initial and ongoing costs of complying with the mandatory quality of service obligations. This step would include an assessment of the technical feasibility of complying with such a standard.
(c) Assess the benefits of such compliance from an economic and competitive standpoint. This would include considerations of economic efficiency such as productive, allocative and dynamic efficiencies.

4.4 Steps in the cost-benefit analysis

4.4.1 Identification of the relevant parties involved

(a) Conceptually, a mandated quality of service will have an effect on the following service providers in the communications and multimedia industry:

(1) Public cellular services
(2) Public Switched Telephone Network (PSTN)
(3) Internet access service using a dial-up connection
(4) Satellite broadcasting
(5) Terrestrial free to air TV and
(6) Terrestrial radio broadcasting

(b) The above quality of service obligation shall apply only to all **Content Application Service Providers (CASP)** and **Application Service Providers (ASP).**

4.4.2 Assessment of cost and technical feasibility.

(a) Direct costs to the industry encompass initial and ongoing costs depending on the level and complexity of their current policies and practices in the relevant areas of

i. Public Switched Telephone Network

ii. Public Cellular Services

iii. Internet Access Service using a dial-up connection

iv. Content Applications Service that is satellite broadcasting, terrestrial free to air TV and terrestrial radio broadcasting only.

(b) The costs involved cover education and training of existing/ new staff, employment of additional staff if necessary, policy development and enhancement, volume related costs-such as ensuring capacity to deal with an increased volume of complaints, infrastructure acquisition or modification and compliance monitoring and reporting costs. In recognition of the cost factors involved, the quality of service indicators have been restricted to a limited number of indicators that are appropriate, quantifiable and relevant to the consumer.

(c) The Commission has assessed the technical feasibility of complying with the mandated quality of service obligations above; and is of the view that the standards imposed are fair, reasonable and internationally competitive. The Commission will continue to fine-tune and assess the technical feasibility of compliance on an ongoing basis.

(d) Given the cost and technical adjustments that may have to be made to facilitate compliance with these standards, the Commission has decided that these quality of service standards will only come into operation on 1 December 2002. A six month time frame is thus allowed for industry to adjust/ adapt.

4.4.3 Assessment of benefits of a mandated quality of service obligations

(a) Competitive benefits to industry include:

The existence and observance of such a mandatory standards in the sphere of the quality of obligations will make for a competitive environment that will result in the delivery of high-quality services. This will translate into increased levels of customer satisfaction that will lead to an increasing demand for such services. With such demand, it then becomes economically efficient for the industry to adhere to quality considerations, which will ultimately result in value-addition activities that will promote Malaysia's position as a global hub in the communications, multimedia and content industry.

The economic efficiency of a quality-conscious regime is assessed here in terms of:

Productive efficiency-adherence to quality in a technically efficient manner that facilitates the production of services or goods with minimal inputs, minimal costs and maximum output. **At this point quality is viewed a cost to comply with.**

Allocative efficiency- where the user starts to value the notion of quality and is willing to pay for such services. In the medium term the adoption of good quality practices for instance in billing performance will result in market and operational benefits to a service provider specifically, and industry generally. This is because it has a direct impact on customer satisfaction. **Here quality acts as a key differentiator or competitive tool.**

Dynamic efficiency-this is the long-term aim of a mandatory quality of service obligation where resources move over time to very high value users. A mindset and practice of quality-consciousness will in this sense encourage efficient and continuous investment, research, development and diffusion of higher standards in quality. For instance, a transition can be made from ensuring mere billing timeliness to billing options that are varied in frequency and media. **Here quality consciousness becomes the norm, a way of life or mindset.**

(b) Given the inter-relationship and strong link between quality and competition the Commission is of the view that the mandatory quality of service obligations are a priority with much benefits to industry players who are committed and motivated to develop and grow further.

(c) Benefits to the user is essentially encapsulated via the concept of user satisfaction which includes amongst others:

(1) Confidence building in the integrity and reliability of the above services due to a quality of service structure that is responsive, proactive and transparent for instance an assurance in billing accuracy and reliable billing systems, service restoration speed and timeliness in handling general complaints
(2) Assurance and enjoyment of a high-quality of services at all times;
(3) The ability to obtain value-for-money services by consumers, as a clear and transparent framework exists to level the playing field in order to ensure competition and collaboration in industry.
(4) Processes that are visible and accessible such as the wide publication of information relating to the complaint handling process for instance in the bill, corporate brochure, website etc, and the institution or free or low-cost methods of complaint lodging for example via toll free numbers, local call numbers, fax or e-mail etc.
(5) Malaysians are ushered into and integrated fully with ICT in a world characterized by increasing electronic interactions in the economic, social and political spheres.
(6) The Commission will ensure that standards of quality are compatible to ensure that one service can work seamlessly with another service. For instance, consumers should be able to enjoy number portability and interconnection from a telephone from one operator to a telephone from another operator.

4.4.4 Context of the proposed cost-benefit methodology

The cost-benefit methodology is not an exclusive methodology in which the Commission would assess the issues relevant to a proposed mandated quality of service obligations.

SECTION 5: FINDINGS

5.1 The following section deals with the input/ comments received from the public, how it was assessed and dealt with.

Source of comment	Area of comment	Suggestion/comment	Evaluation method	Result
Dr. Hazman Shah, Faculty of Law and Administration, Universiti Teknologi Mara	Billing performance criteria	Inadequate criteria that deals only with complaints. Doesn't assess the billing integrity proper	Utilising methodologies explained above	Criterion pertaining to billing integrity included under the reporting requirements
Celcom (M) Sdn. Bhd	**PSTN** 1.Operator speed of answer	No special number available for this service and currently no measurement of this criterion is in place	Utilising methodologies as explained above	Celcom has to comply with new mandatory standards
	Public cellular services: 1.Billing performance standard	Tough to meet Requests that "wrongly billed" be defined	Utilising methodologies as explained above	Celcom has to comply with new mandatory standards The phrase "**wrongly billed"** amended to **"billing complaints".** Illustrations of billing complaints are provided under the heading of measurement in an attempt to clarify what this means.
	Public cellular services: 1.General customer complaints standard	Tough to meet	Utilising methodologies as explained Above	Celcom has to comply with new mandatory standards.
	Internet Access Service through dial-up connection: Billing performance standard, measurement and reporting procedures	Currently not available and Celcom plans to update the Commission on its future plans on internet services.	Utilising methodologies as explained above	Celcom has to comply with new mandatory standards
Comments from Ericsson (M) Sdn. Bhd.	**Chapter 1 and Chapter 2** of the Public Inquiry Paper	Very supportive of intrinsic quality of service standards that are internationally competitive. Argues for enhancements in Endpoint Service Performance Standard.	Utilising methodologies explained above.	This reflects the Commission's long-term position. It will be considered over the next phases in this area. Enhancements covered by ESAT.

Source of comment	Area of comment	Suggestions / comments	Evaluation method	Result
Maxis Communications Bhd.	**PSTN Service** 1.Performance & Installation Orders 2.Service Restoration Performance 3.Billing Performance 4. Operator Speed of Answer	Clarification, modification and amendments with/ without reasons given sought for definitions, standards, measurement and/ or reporting criteria.	Utilising methodologies as explained above	Some modifications and amendments: Service Restoration performance excludes weekends/ public holidays Billing Performance redefined
	Public Cellular Services 1.Billing Performance 2.General Customer Complaints 3.Endpoint Service Performance and System Drive Test	Clarification sought Genuiness of reports provided Clarification sought	Utilising methodologies as explained above	Redefined Independent audits required The tests will be one a year at the minimum. In the previous test a minimum of 100 calls per cluster of the sample were taken. The call is held for one minute, with the next call made 5 seconds later; as this reflects the customers' point of view. As such, the actual sample size is a lot larger than 30.
	Internet Access Service 1.Dial-Up Performance	Changes in standards	Utilising methodologies as explained above	Adjusted to 95% of attempts within 40 instead of 30 seconds. Average file download adjusted to 80% modem line speed 95% of the time

DiGi Telecommunications Sdn. Bhd.	**PSTN** 1.Performance of Installation orders	Difficulty in complying with standards and a lack of such standards currently.	Utilising methodologies as explained above	Digi will have to comply with the new standards.
	2.Service Trouble report rate	Explanation of "calculation based on a 12 month rolling basis"		This involves the adding of both half yearly calculations. The reports must be sent in on a six-month basis
		Clarification on reporting format		Utilise current reporting format
		Amendments to measurement		Incoporated
	3.Service Restoration Performance	Report format and difficulty in complying with standard.		Utilise current report format. Digi will have to comply with the standard
	4. Operator Speed of Answer	No provisions for such services		Necessary provisions must be made
	General Comments on Interconnected leased circuits between telcos	Creation of a benchmark by The Commission for an inter-network access link that is currently below international benchmark like the ITU.	Utilising methodologies as explained above	To be considered in the next / future phase of quality of service

Source of Comment	Area of Comment	Suggestions/ Comments	Evaluation method	Result
MIMOS Bhd.	**PSTN Services**	Performance of installation orders require definition of standards for CASP/ ASP orders and standards on provisioning of network infrastructure or additional capacity	Utilising methodologies as explained above	Not relevant for this indicator.
	Internet Access Services	Dial-Up Performance requires coherent assessment of customers equipment, telecommunication network and services and ISP equipment/ services General customer complaints to exclude unavailability of service, late service provision or restoration due to third party providers	As above	Extended to 40 seconds which includes post dial delay of PSTN and modem training sequence.
	Leased Lines Services	Should be included in the mandatory standards covering performance installation orders, service trouble report rate, service restoration performance, billing performance and general customer complaints	As above	Leased Line Services to licensees is covered under the Access List and Access Code. Leased Line Services to the public will be considered in the next phase of the quality of service. exercise.
	Miscellaneous	Need for a more transparent, timely and efficient service delivery system from NFPs and NSPs	As above	Covered by the Access Code/ service level agreements.

Source of comment	Area of comment	Comments/ Suggestions	Evaluation method	Result
Time dotCom Berhad	**Introduction 1.Consumer Satisfaction Index**	Flaws in sample size and misleading advertising	Utilising methodologies as explained above.	Noted
	2.Quality of service Benchmark	Frequency of auditing and testing to be made known.		Noted
		Clarification on what is auditable		Noted
		Access manipulation and difficulty in setting standards for Internet Access Service due to network's real/unreal performance highlighted.		Noted
		Frequency and point of publication of report clarified.		Noted
		Requests that mandatory minimum standards be set for NFPs / NSPs services when offered to ASPs.		To be covered by the service level agreements between ISPs and NFPs/NSPs.
	PSTN Services	1.Performance of Installation Orders standard modification.	Utilising methodologies as explained above	Noted
		2. Operator Speed of Answer standard		Noted
		3. Trunk call connection loss (intra network service) measurement		Noted
		4. Trunk call connection loss (inter network service) measurement		Noted
		Proposes a Post Dialing Delay standard for intra and inter network call connection services	Utilising methodologies as explained above	Incoporated

	Public Cellular Services	1.Unavailability of service to be defined 2.Explanation of how 010, 011 & 018 networks will be tested when there is no SIM card usage. This is to ensure common testing parameters 3. Info on reporting-impact of tests, discussion and option for retests.	Utilising methodologies as explained above	Defined Not included as this only applies to digital cellular services. Whilst there is no option for retests as such, an error will automatically trigger a larger sample size. A maximum of two further samples will be taken after the initial sample if the results are unsatisfactory/ below standards.
	Internet Access Services	Quality of ISPs are dependent on the network quality provided by NFPs and NSPs	Utilising methodologies as explained above.	To be covered by service level agreements between ISPs and NFPS/ NSPs..

Note:

Some findings have not been highlighted due to confidentiality requirements.

SECTION 6: THE DETERMINATION OF A MANDATORY QUALITY OF SERVICE STANDARD: THE WAY FORWARD

6.1 The conceptualization and implementation of a mandatory quality of service obligations is aimed initially at taking a protective stance in favour of the user. This is due to the fact that the convergence of the multimedia and communications industry is a relatively new phenomenon and to facilitate its widespread and pervasive use amongst the populace, quality-conscious measures are necessary to ensure high user confidence. The broad aim is to have mandatory standards as a first definitive step towards the formulation of a voluntary industry code that reflects self-regulation. Such a code will then act as an operational guide for industry effectiveness with less intervention from the Commission.

6.2 Given the fact that the nation is in the process of making the transition to evolve into a value-based knowledge society that is rich in information, empowered by knowledge, infused with a distinctive value system and self-governing; this quality conscious standard is an initiative that parallels national development initiatives as envisioned in the Framework for Industrial Development.

6.3 The Commission has therefore deemed it fit pursuant to a Ministerial Direction on Quality Service, Direction No.1 of 2002 under S7 and 104(3) of the CMA to determine mandatory standards on the quality of service for services identified in Section 1 of this report. A mandatory code that invokes monetary penalties and imprisonment or both is a necessary step to ensure this issue is prioritised, obligations are recognized and fulfilled; and users are assured of easily accessible and high quality services with transparent, consistent and reliable procedures to monitor, respond and resolve problems. The regulatory framework proposed is generic in nature and utilizes generic definitions of markets, service activities and services.

6.4 In the long term however the Commission hopes to evolve from its regulatory function to playing a facilitative role in this area. It is for the industry as a whole to conceptualise, implement and practice a voluntary quality-conscious code. The competitive environment of the marketplace will ultimately act to both motivate and ensure adherence to quality. Such a regime is necessary in the ultimatum as the intent must always be to identify with the concerns of users with respect to a wide variety of services, and to formulate meaningful definitions of unacceptable quality. The latter can only be reached in the Commission's view through open and non-adversarial working sessions between service providers and users, guided by enlightened discussions of what would be reasonable for a service provider to guarantee and a user to expect.

6.5 The Commission is of the view that in the long-term a poor quality of service cannot be compensated by legalistic conceptions such as rebates, fines or penalties when more reasonable alternatives are available[4].

6.6 A user of a service of poor quality is in the Commission's view more concerned with issues such as:

(a) The correction of the problem or interference in a timely manner, or
(b) An assurance from the service provider that the best efforts are being applied to deal with the problem, or
(c) Assurances that the problem will not recur.

Thus the concerns of users are essentially focused on the issue of what the service provider(s) is willing, is able and will promise to do in an effort to put things right when unacceptable lapses of quality in service occur. A comparative study of the regulatory regime in Australia, India and South Africa suggests that the preponderance of voluntary industry initiatives point towards the achievement of self-regulation in the long-term, precisely due to the above concerns. In such a regime monetary penalties are imposed, if any, only if the lapses in the quality of service are severe or if the service provider does not act as promised.

OTHER ISSUES

6.7 The long-term developmental horizon of the industry together with the national objectives emphasized throughout this report demonstrate a need for a high level of sensitivity to a quality consciousness in view of the fact that:

(a) Good sales practices must ensure that users are well communicated with and their concerns are understood;
(b) Technical designs and conceptions must satisfy customer expectations rather than merely conform to industry standards;
(c) A good ethos of operations management requires that operations managers are cognisant of the comfortable levels of quality of service that must be achieved and maintained;
(d) Technical services that have the capacity to identify, diagnose and troubleshoot user complaints effectively with a high degree of competence: and
(e) Develop a quality-conscious culture in people, companies and the industry as a whole so that all parties have a very good idea and understanding of how their day-to day –activities, practices and long-term policies affect the quality of services offered.

[4] This view is a reflection based on an observation of international communication markets such as Australia and India for example, where typically, the ultimate preference is for voluntary industry codes.

6.8 The focus on the quality of standards issue is in sync with Malaysia's Vision 2020, which is one of the most aggressive and comprehensive ICT plans at the global level.[5] The Vision incorporates the use of technology for the nation's leap into the next stage of development, with the centerpiece embodied in the Multimedia Super Corridor (MSC). Currently Malaysia is ranked 36th in term of its " Readiness for the Networked World." [6] Such a ranking is indicative of the country's potential to participate in the Networked World of the future. The Malaysian Government's policies and initiatives are aimed at attracting high end- foreign investment and a transition to the knowledge economy. The mandatory quality of service obligations thus acts as a catalyst to hasten this process.

6.9 Such a mandatory standard on the quality of service obligations will also act to transform eventually the use of ICT from being predominantly employed as a means of solving current problems to rethink an issue, and utilise technology to achieve a given aim or objective. In short the use of ICT must make the transition from the mere act of adapting or adopting existing ICT to developing state of the art and new solutions for the job at hand with ICT. From this perspective, ICT will be an enabler and not an end in itself.

[5] *The Global Information Technology Report 2001-2002*: Readiness for the Networked World.
[6] See *The Global Information Technology Report 2001-2002*: Readiness for the Networked World, published by the World Economic Forum and the Centre for International Development, Harvard University.

APPENDIX
(SUBMISSIONS RECEIVED)

All reports marked "Confidential" have been excluded from publication

INTERNET ACCESS SERVICES PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - Proposed framework	Proposal Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
C) INTERNET ACCESS SERVICES	This section applies to Applications Service Providers providing Dial-Up Internet Access Service. The proposed service quality framework is as follows:	No Changed	OK	
Dail Up Performance				
▪ Definition	This relates to the number of attempts and time to access the IASP node and it includes the time from the dial command until the "log-in" is completed as well as the average file download time for a standard graphic or random text file of approximately 30Kbytes from a local web site	No Changed	OK	
▪ Standard	1. Time to access – 95% of attempts are connected within 30 seconds 2. Probability of access to IASP node – 95% within three attempts 3. Average File download time – 80% modem line speed at least 95% of the time	1. No Changed 2. Changed from 95% to 90% 3. No Changed	1. OK 2. OK 3. OK	
▪ Measurement	1. Measurement is made based on a standard ITU v.90 modem accessing the nearest IASP node and downloading a standard file. 2. The standard user end computer configuration is a minimum of Pentium III/Equivalent and 128Mbyte memory running only a standard browser application 3. The measurement of the standards shall be based on test calls or service observation 4. For test calls, the minimum sample size is 30 per IASP node. □	1. No Changed 2. No Changed 3. Add " ...observation for each IASP node at least once year" 4. No Changed	1. OK 2. OK 3. OK 4. OK	
▪ Reporting	No reporting is required. The data collected through test calls or service observation will be done by the service providers or appointed third parties and observed by MCMC □	1. No Changed	OK□	
General Customer Complaints				
▪ Definition	1. This relates to any general customer complaints received on service matters including but are not limited to matters wh	1. Definition have some changes on the ratio:	OK	

INTERNET ACCESS SERVICES PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - Proposed framework	Proposal Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
	including but are not limited to, matters uch as unavailability, inaccessibility or instability of service, transmission speed is not as promised and other customer service complaints. It is described by the ratio	**Total number of cumulative complaints received on a 12 mths rolling period X 1000** **----------** **Total number of cust. at the end of reporting period**		
■ Standard	Less than 50 complaints per 1000 customers per year	No Changed	OK	
■ Measurement	1. The types of General Customer Complaints could include but is not limited to A) Inaccurate information given B) unprofessional conduct of staff/agents C) unavailability of service D) service disruption E) late of service provision F) late service restoration 2. The measurement of the standard shall be based on the data collected and submitted by the ASP. The data is to be checked and reported by the ASP for the period ending 31/3, 30/6, 30/9 and 31/12. Calculation is based on a 12 month rolling basis.	1. No Changed 2. Changed from Quarterly to half yearly	1. OK 2. OK	
■ Report	Thereport should be submitted to the Commission not later than six weeks after the end of each reporting quarter. The data is to be reported as Total Number of Complaints for the Period with further breakdown by Types and Number of Complaint Received.	Changed from ".....after the end of each of reporting quarter" to "...after the end of each half yerly reporting period"	OK	
Billing Performance				
■ Definition	This relates to the handling of billing to customers and is reflected in the number of complaints received from customers due to billing errors and the timeliness in resolving billing disputes.	No Changed	OK.	
■ Standard	1. Accuracy in billing – Less than 2% of billing complaints are due to 'wrongly billed' 2. Timeliness in resolving billing dispute A) 70% of complaints resolved within 14 days	1. No Changed 2. No Changed	Not Available	

INTERNET ACCESS SERVICES PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - Proposed framework	Proposal Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
	B) 90% of complaints resolved within 30 days			
■ Measurement	1. All complaints on each bill are taken as one complaint. Fraud complaints and wrong address on the bill are not taken into consideration. However, these types of complaints are to be reflected in the breakdown of Types and Number of Billing Complaints Received. The types of billing complaints could include but are not limited to: A) Payment made & wrongly / not credited B) Double charges C) Deposit not refunded D) Deposit refund delay E) Bill received late F) Bill not received G) Fraud complaints H) Wrong address on the bill I) Others billing errors 2. The measurement of the standard shall be based on the data collected and submitted by the ASP. The data is to be checked and reported by the ASP for the period ending 31/3, 30/6, 30/9 and 31/12. □	1. No Changed 2. Changed from Quarterly to half yearly □	1. Not available . 2. Not Available	
■ Reporting	The report on billing accuracy, timeliness in resolving billing disputes and the breakdown of Types and Number of Billing Complaints Received should be submitted to the Commission not later than six weeks after the end of each reporting quarter	Changed from ".....after the end of each of reporting quarter " to "...after the end of each half yerly reporting period"	Not Available. **Currently GSM mobile customers will be charged thru mobile billing. No specific ISP billing for internet services.**	**Celcom will update on future plan to MCMC on internet services**.

PSTN SERVICE PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - Proposed framework	Proposed Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
A) PSTN	This session applies to all application service providers (ASP) providing PSTN srvices			
Performance of Installation Orders				
■ Definition	1.Installation time is the time taken from signing of agreement on-line or at the businessoutlet to the provision of basic telephone services(including cases where customer request for a letter appoitment date). Relocation with number change is to be included. Public holiday and weekend are excluded from the above consideration. This applies both residential and business installation orders. 2. The above time duration is made with the assumption that internal telecomunication wiring and exchange lines are available.	1a. Add "....or the mutually committed start time to the time when the basic...." 1b. Remove "to the provision of" 2. Changed from "exchange line" to "network infrastructure"	1. OK 2. OK	
■ Standard	(c) All applicants should receive service not later than 7 days or within the mutually agreed or committed deadlines.	Removed " at least " at para (21) and (22)		
■ Measurement	The data is to be checked and reported by ASP for the period ending 31/3, 30/6, 30/9 and 31/12.	Changed from quarterly to half yearly. MCMC have add additional requirement to be excluded from the count.	OK	
■ Reporting	The data is to be reported to the Commission not later than six weeks after the end of each reporting quarter.	Changed from "...each reporting quarter " to "....each half yearly reporting period"	OK	
Service Trouble Report Rate				
■ Definition	This relates to the number of reported troubles on PSTN application service by the customer to the reporting center per 1000 lines per year. It is described by the ratio.	No Changed	OK	
■ Standard	Less than 500 faults reported per 1000 lines per year or equivalent to 1 trouble report per line per 2 years.	Removed "...or equivalent" to "..1 trouble report per line per 2 years."	OK	
■ Measurement	1. Report to exclude certain stated criterias (as per defined 5 criterias) 2. The data is to be checked and reported by ASP for the period ending 31/3, 30/6, 30/9 and 31/12. Calculation is based on 12 month rolling basis	Changed from quarterly to half yearly	OK	
■ Report	The data is to be reported to the Commission not later than six weeks after the end of each	Changed from "...each reporting quarter" to "....each half yearly reporting period"	OK	

PSTN SERVICE PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - Proposed framework	Proposed Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
	reporting quarter			
Service Restoration Performance				
▪ Definition	This relates to the action taken to restore a fault from the time it was reported by the customer to the time of restoration. The restoration time is calculated from the time of report to the time of restoration, including weekends and public holiday.	No Changed	OK	
▪ Standard	(a) 80% within 24 hrs (b) 90% within 48hrs	No Changed	OK	
▪ Measurement	The data is to be checked and reported by ASP for the period ending 31/3, 30/6, 30/9 and 31/12.	Changed from quarterly to half yearly	OK	
▪ Reporting	The report should be submitted to the Commission not later than six week after the end of each reporting quarter. The data is to be reported as Total Number of Services Restored for the period with further breakdown as Total Number of Services Restored Within 24 Hours and Total Number of Services Restored within 48 hours	Changed from "...each reporting quarter" to "...each half yearly reporting period"	OK	
Billing Performance				
▪ Definition	This relates to the handling of billing to customers and is reflected in the number of complaints received from customers due to billing errors and the timeliness in resolving billing disputes	No Changed	OK	
▪ Standard	1. Accuracy in billing - Less than 2% of billing complaints are due to 'wrongly billed'. 2. Timeliness in resolving billing dispute ▪ 70% of complaints resolved within 14 days ▪ 90% of complaints resolved within 30 days	1. No Changed 2. No Changed	1.OK. 2. OK	
▪ Measurement	1. All complaints on each bill are taken as one complaint. Fraud complaints and wrong address on the bill are not taken into consideration. However, these types of	1. No Changed	1. OK	

PSTN SERVICE PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - Proposed framework	Proposed Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
	complaints are to be reflected in the breakdown of Types and Number of Billing Complaints Received. The types of billing complaints could include but is not limited: a) Payment made & wrongly/not credited b)Double charges c)Deposit not refunded d)Deposit refund delay e)Bill received late f)Bill not received g)Fraud complaints h)Wrong address on the bill i)Other billing errors 2. The measurement of the standard shall be based on the data collected and submitted by the CASP. The data is to be checked and reported by the CASP for the period ending 31/3, 30/6, 30/9 and 31/12.	2. Changed from quarterly to half yearly	2. OK	
▪ Reporting	The report on billing accuracy, timeliness in resolving billing disputes and the breakdown of Types and Number of Billing Complaints Received should be submitted to the Commission not later than six weeks after the end of each reporting quarter	Changed from "...each reporting quarter " to "...each half yearly reporting period"	OK	
General Customer Complaints				
▪ Definition	1. This relates to any general complaint received on service matters including, but are not limited to, late or no installation, late or no restoration after a fault complaint, poor line quality, staff or contractor conduct, and customer services. It is described by the ratio. 2. Fault reports and billing complaints are excluded as they are reported separately	1. The ratio has changed to **Total number of Cumulative complaints received over a 12 mths rolling period X 1000** **----------** **-** **Total number of exchange lines at the end of each reporting peiod.** 2. No Changed	1. OK 2. OK	
▪ Standard	Number of Complaints should be less than 50 per 1000 lines per year	Changed to less than 50 per 1000 lines per year	OK	

PSTN SERVICE PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - Proposed framework	Proposed Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
▪ Measurement	1. The types of General Customer Complaints to include could be but is not limited to: ▪ Wrong information given ▪ Waiver not given ▪ Unprofessional conduct of staff / agents ▪ Unavailability of service ▪ Late service installation and provision ▪ Late service restoration ▪ Unsatisfactory installation / restoration / repair 2. The measurement of the standard shall be based on the data collected and submitted by the ASP. The data is to be checked and reported by the ASP for the period ending 31/3, 30/6, 30/9 and 31/12. Calculation is based on a 12 month rolling basis.	1. No Changed 2. Changed from quarterly to half yearly	1. OK 2. OK	
▪ Reporting	The report should be submitted to the Commission not later than six weeks after the end of each reporting quarter. The data is to be reported as Total Number of General Customer Complaints for the Period with further breakdown by Types and Number of Complaints Received	Changed from "...each reporting quarter to each half yearly reporting period"	OK	
Operator Speed Of Answer	Applies to all operator assisted services including but not limited to Directory Service, Emergency Service, Service Enquiry, Help Desk, Fault and Repair Service, Operator assisted international and national calls, etc			
▪ Definition	This relates to calls answered by telephone operators (live persons) excluding machine answered calls. Waiting time taken by auto answer machine is included in the answering time	Add " If an automatic answer machine is included in as an integral part of the service, the waiting time before the live operator comes in shall be included in the answering time."	OK	
▪ Standard	All calls to be answered within 10 seconds for emergency calls and within 20 seconds for others. Less than 1% of calls shall encounter a busy signal	Changed from " All calls to 90% of calls.."	Celcom don't have special number.	Not Available.
▪ Measurement	The measurement of the standard shall be based on the data collected and submitted by the ASP/NSP or by service observation. The data to be collected are on the total number of busy, number of calls received and the total	A. Changed to"....based on test call sampling or service observation done during a normal busy hour of a busy period at leasy once a year" B. Add " Calculation shall be based on these test call	Not Available	Not Available

PSTN SERVICE PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - Proposed framework	Proposed Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
	numbers answered within 10 seconds for emergency calls and 20 seconds for others. They are to be checked and reported by the ASP/NSP for the period ending 31/3, 30/6, 30/9 and 31/12.	or service observation" C. Add " For test call sampling method, the minimum sampling size will be 30 test calls. D. Removed "They are to be checked and reported by the ASP/NSP for the period ending 31/3, 30/6, 30/9 and 31/12."		
■ Reporting	The report should be submitted to the Commission not later than six weeks after the end of each reporting quarter. The report includes breakdown of calls answered at each service center i.e. the fault reporting center, national call and international assistance, directory inquiries and emergency calls.	No reporting is required	Not Available	Not Available
Trunk call connection loss (Intra Network)				
■ Definition	This relates to subscriber trunk calls that are lost while trying to get through the network from an originating switch to a terminating switch with a different trunk code of the same network service. It may be due to network congestion and technical fault (total network breakdown excluded). It is described by the ratio:	Add "... from an originating switch TO originating or trunk switch...."	OK	
■ Standard	Less than 6%	No Changed	OK	
■ Measurement	1. The measurement of the standard shall be based on test call sampling or service observation done during a normal busy hour of a Busy Period twice a year. Calculation shall be based on these test calls or service observation. 2. All calls that cannot be established due to technical faults (such as poor network quality, incorrect signaling, etc, excluding total network breakdown) and network congestion are included in the count	1. Changed " ...twice a year TO once a year." 2. No Changed 3. Changed "...sampling size will be 50 test call TO 30 test calls."	1. OK 2. OK 3. OK	

PSTN SERVICE PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - Proposed framework	Proposed Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
	3. For test call sampling method, the minimum sampling size will be 50 test calls per trunk code area.			
▪ Reporting	No reporting is required. The data collected through test calls or service observation will be done by the service providers or appointed third parties and observed by MCMC	No Changed	OK	
Trunk call connection loss (Inter Network)				
▪ Definition	This relates to subscriber trunk calls that are lost while trying to get through the network from an originating switch to a terminating switch with a different trunk code of a different network service. It may be due to network congestion and technical faults (total network breakdown excluded).	Changed "... from an originating switch to a terminating switch with a different trunk code of a different network service To from an originating or trunk switch at Point-of-Interconnect (POI) to a terminating....."	OK	
▪ Standard	Less than 6%	No Changed	OK	
▪ Measurement	1. The measurement of the standard shall be based on test calls or service observation done during a normal busy hour of a Busy Period of each quarter.	1. Add "...(i.e. viewed from one network to another operator's network)..."	1. OK	
	2. Test calls or service observation done during a busy hour of the Busy Period as viewed from Point of Interconnection (POI) is used to derive the measurement. All POIs shall be included for the measurement.	2. No Changed	2. OK	
	3. All calls that cannot be established due to technical faults (such as poor network quality, incorrect signaling, etc, excluding total network breakdown) and end-to-end network congestion are included in the count.	3. No Changed	3. OK	
	4. For test call method, the minimum sample size is 50 per POI.	4. Changed "...sampling size will be 50 test call TO 30 test calls."	4.OK	

PSTN SERVICE PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - Proposed framework	Proposed Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
▪ Reporting	5. Calculation shall be based on test calls measurements or service observation	5. No Changed	5.OK	
	No reporting is required. The data collected through test calls or service observation will be done by the service providers or appointed third parties and observed by MCMC	No Changed	OK	

PUBLIC CELLULAR TELEPHONE SERVICE PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - proposed framework	Proposed Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
B) PUBLIC CELLULAR TELEPHONE APPLICATIONS SERVICE	This section applies to Applications Service Providers (ASP) providing Public Cellular Telephone Applications Service. The proposed service quality framework is as follows	No Changed	OK	
Billing Performance				
■ Definition	This relates to the handling of billing to customers and is reflected in the number of complaints received from customers due to billing errors and the timeliness in resolving billing disputes.	No Changed	OK	
■ Standard	1. Accuracy – Less than 2% of billing complaints found to be wrongly billed 2. Timeliness in resolving billing dispute a. 70% up to a maximum duration of 14 days b. 90% up to a maximum duration of 30 days.	1. No Changed 2. No. Cahnged	**1. Currently is very tough to meet requirement** **2. Currently is very tough to meet requirement**	**MCMC to define specific & elaborate further on the defination of "Wrongly Billed."**
Measurement	1. All complaints on each bill are taken as one complaint. Fraud complaints and wrong address on the bill are not taken into consideration. However, these types of complaints are to be reflected in the breakdown of Types and Number of Billing Complaints Received 2. The types of billing complaints to include could be but is not limited to: i. Payment made & wrongly / not credited ii. Double charges iii. Deposit not refunded iv. Deposit refund delay v. Bill received late vi. Bill not received vii. Fraud complaints viii. Wrong address on the bill x. Others billing errors. 3. The measurement of the standard shall be based on the data collected and submitted by the ASP. The data is to be checked and reported by the ASP for the period ending 31/3, 30/6, 30/9 and 31/12.	1. No Changed 2. No Changed 3. Changed from Quarterly to half yearly.	1. OK 2. OK 3. OK	
■ Reporting	The report on billing accuracy, timeliness in resolving billing disputes and the breakdown	Changed from ".....after the end of each quarter" to "..after the end of each half	OK	

PUBLIC CELLULAR TELEPHONE SERVICE PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - proposed framework	Proposed Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
	of Types and Number of Billing Complaints Received should be submitted to the Commission not later than six weeks after the end of each reporting quarter	yerly reporting period"		
General Customer Complaints				
■ Definition	1. This relates to any general complaint received on service matters including, but are not limited to, late or no service activation, late or no service restoration after a service coverage outage complaint, poor line quality, inefficient value added services, staff or contractor conduct, and customer services. It is described by the ratio. 2. Fault reports and billing complaints are excluded	1. Definition have some changes on the ratio: **Total number of cumulative complaints received on a 12 mths rolling period X 1000** **----------** **Total number of cust. At the end of reporting period** 2. No Changed	1. OK 2.OK	
■ Standard	Maximum of 20 service complaints per 1000 customers per year	No Changed	**Currently is very tough to meet requirement**	
■ Measurement	1. The types of General Customer Complaints to include could be but are not limited to: a. Wrong information given b. Waiver not given c. Unprofessional conduct of staff/agents d. Unavailability of service e. Late service provision f. Late service restoration g. Distruption of service h. Erroneous service disconnection or suspension i. Pre-paid reload amount not credited 2. The measurement of the standard shall be based on the data collected and submitted by the ASP. The data is to be checked and reported by the ASP for the period ending 31/3, 30/6, 30/9 and 31/12. Calculation is based on a 12 month rolling basis.	1. No Changed 2. Changed from Quarterly to half yearly	1. OK 2. OK	
■ Reporting	The report should be submitted to the Commission not later than six weeks after the	Changed from ".....after the end of each quarter" to "...after the end of each half	OK	

PUBLIC CELLULAR TELEPHONE SERVICE PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - proposed framework	Proposed Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
	end of each reporting quarter. The data is to be reported as Total Number of General Customer Complaints for the Period with further breakdown by Types and Number of Complaints Received.	yerly reporting period"		
Endpoints Service Performance				
■ Definition	1. Endpoints are defined as the interface between the customer and the equipment providing access to the service. 2. Endpoints Service Availability (ESA) is defined as the percentage of time a usable call can be established and maintained between two endpoints. 3. Number of blocked calls are those times where there is no free channel to serve a call attempt. Number of calls dropped are those where a connection has been successful (network accessed, set-up successful, communication channel assigned) but was disconnected due to abnormal call release. 4. This assessment is done from the view of what the customer gets from their ends.	1. No Changed 2. No Changed 3. No Changed 4. No Changed	1. OK 2. OK 3. OK 4. OK	
■ Standard	1. ESA better than 95% of intra network calls. 2. ESA better than 80% of inter network calls 3. Less than 5% of dropped calls for intra network calls	1. Changed from 95% to 90% 2. No Changed 3. No Changed	1. OK 2. OK 3. OK	
■ Measurement	1. Measurement is done through test measurements at least once a year. The derived data from testing shall be for intra and inter network endpoints service availability and will be based on a system drive test and static test. The drive and static test data has equal weightage which will contribute to the the composite ESA. The drive tests shall be on main routes whereas static tests shall be mainly in public access, business and commercial locations. 2. Call holding time is set to last 60 seconds	1a. Changed to "...drive and static test data shall contribute in a 70:30 ratio. 1b. Add " For inter network test, the terminating endpoint shall be a test number attached to the mobile switching center" 2. No Changed	1a. OK 1b. OK. 2. OK	

PUBLIC CELLULAR TELEPHONE SERVICE PROPOSAL OF MANDATORY STANDARDS
FEEDBACK FROM CELCOM

Element	New - proposed framework	Proposed Mandatory Standards for QoS	Comment from Celcom	Recommendation to MCMC
	with another 5 seconds interval time. If any call is blocked or dropped, it stays at idle for the rest of the call duration until the next attempt is made			
■ System Drive Test	1. This test will be done in areas to be identified by the MCMC based on the areas with service coverage as provided by the service providers to their customers. Each area would require 200km or about 5 hours driving time, on average, and would pass, as many as possible, main roads, public access and hot spot areas within each area. 2. The maximum speed of the drive shall be not exceed the speed limits in the city and highways. A minimum sample of 100 calls for each network will be required for each area. This test is done on intra network only. The dedicated originating and terminating mobile unit's antenna shall be placed at the same height and in the same vehicle. This test is to be done on business days only. □	1. No Changed 2. Changed sample size from 100 calls to 30 calls. □	1.OK 2. OK □	
■ Static Test	This test will be done in areas to be identified by the MCMC based on areas with service coverage as provided by the service providers to their customers. A minimum sample of 50 calls each for inter and intra network calls per network will be required for each area. The tests are done on the same spot. This test is to be done on business days only□□	Changed sample size from 50 calls to 30 calls.	OK	
■ Reporting	No reporting is required. The data collected through test calls or service observation will be done by the service providers or appointed third parties and observed by MCMC.	No Changed	OK	

Our ref : DiGi/MCMC/PIP/QoS/200502

Date : 20 May 2002

Malaysian Communications and Multimedia Commission
Aras 28, Menara Dato' Onn
Putra World Trade Centre
45 Jalan Tun Ismail
50480 Kuala Lumpur.

ATTN : MR. TOH SWEE HOE

Dear Sir,

PROPOSAL FOR THE DETERMINATION OF MANDATORY STANDARD FOR QUALITY OF SERVICE

Reference is made to MCMC Public Inquiry Paper on the Proposal for the Determination of Mandatory Standard for Quality of Service dated 08 April 2002, append below is the comment from DiGi:

A. Public Switched Telephone Network (PSTN) Service

Clause 21 : At least **50%** of applications should receive service within 24 hour

Clause 22 : At least **60%** of applications should receive service within 48 hour

Clause 25 : Is the reporting format the same as in Reg-Q002?

Clause 27 : DiGi has the opinion that minimum allowance of 2 faults per line per year is reasonable which means less than 2000 fault reported per 1000 lines per year.

Clause 28 : Suggest the following clauses to be added:
(f) Network problem cause by others network.
(g) Problem cause by delaying level opening of new numbering block by other network

Clause 29 : Need further clarification on "Calculation is based on a 12-month rolling basis"

Clause 30 : Need to know the report format.

Clause 32 : 70% of faults to be restored within 24 hours

Clause 33 : 80% of faults to be restored within 48 hours

Clause 35 : Need to know the report format.

Clause 48 : DiGi does not provide such service as Directory Service, Emergency Service and Operator assisted international and national call.

Clause 50 : Due to the limitation of our system, DiGi could not provide answer within 10 seconds for emergency calls and within 20 seconds for others.

Clause 51 : Since DiGi could not fulfill Clause 50 above due to system limitation, we are not able to provide such measurement.

B. Public Cellular Telephone Application Service

Clause 90 : If the test calls are to be done manually between MCMC and service providers, DiGi would prefer 30 seconds interval time before next call is made. If MCMC is to appoint a third party to do the test without service providers, then it shall be "No comment" from DiGi.

C. Internet Access Service

No comment

D. Content Application Service

No comment

E. Other Matter Related to QoS

Interconnect leased circuit between Telcos
Current international benchmark for QoS availability under ITU standard for access is 99.95% and for core transmission is 99.977%. Access providers are currently giving below the ITU standard with no service level agreement (SLA) and no diversity link. Since this access is important for inter-network traffic that may affect the quality of fixed and mobile service, it is recommended that MCMC set a benchmark for the inter-network access link. DiGi's proposal is as follows:

• Performance expected for core transmission : 99.977%
• Performance expected for access transmission : 99.95%
• Actual performance : X% (if less than 99.977% for core and 99.95% for access)

• Annual fee : Y (Ringgit Malaysia)

• Liquidated Damages : $\frac{(99.977 \text{ for core or } 99.95 \text{ for access} - X)\ Y*Z}{100}$

If X is less than 50%, Z=10
If X is equal or greater than 50% and less than 90%, Z=4
If X is equal or greater than 90% and less than 99.977% for core or 99.95% for access, Z=2

Also, DiGi recommend that late delivery rebate calculation of the service with 0.1% of the annual rental for every single day delay until a maximum of 10% of the fee.

Thank you and regards.

Yours faithfully,
DiGi TELECOMMUNICATIONS SDN BHD

ROSLAN ROSLI
Deputy General Manager
Regulatory, Legal and DCS.

COMMENTS ON PROPOSAL FOR THE DETERMINATION OF MANDATORY STANDARDS FOR QUALITY OF SERVICE

Ericsson has read the Proposal for the Determination of Mandatory Standards for quality of Service paper with great interest and shares to a great extent the views expressed therein in the proposal. Ericsson welcomes the possibility to comment on the proposed standards. The comments are given with reference to the section numbers in the discussion paper.

CHAPTER 1: INTRODUCTION

In general there are different phases in the Quality of Service Aspects from a customer point of views.

They are:

- Network Access
- Service Access
- Service Integrity
- Service Retainability

We would like to propose to the MCMC to look further into the ITU Recommendation for Quality of Service Aspects, to name a few such as ITU-T Rec. E.800, Telephone Network and ISDN Quality of Service and Network Management and Traffic Engineering, ITU-R M.1079-1, PERFORMANCE AND QUALITY OF SERVICE REQUIREMENTS FOR INTERNATIONAL MOBILE TELECOMMUNICATIONS-2000 (IMT-2000) and etc.

We agree with the statement that the customers' perceptions plays an important role in determining the service quality aspects but the quality of service benchmarks are the objective measures of service quality. In selecting a particular benchmark, we would like to propose to the MCMC to look into the international recommendations as mentioned above and to choose the meaningful benchmark for the quality of service.

The consumer satisfaction index may capture the mood and perception of customers at that particular time on the quality of service offered. With a relevant benchmark, consumers can be informed on the level of quality that they are getting.

With the convergence trends and the emergent of new services, there may be other important aspects which are important to the end users that consumers in Malaysia have yet to experience.

Chapter 2: B. PUBLIC CELULLAR TELEPHONE APPLICATIONS SERVICE

In general Quality of Service (QoS) mechanisms prevent service degradation in case of congestion or network failures and support a spectrum efficient radio transport.

The end point Service Performance in this proposal only mentioned the dropped calls. There are other important measurements for cellular users such as Network Accessibility, Call Set-up time, Quality of Speech, Service Retainability and etc.

The measurement should also cover not only voice calls but includes the message services such as Short Message Service, Multimedia Messaging and Enhance Message Services.

It is also important to include the measurement for Internet Access via Mobile using GPRS/WAP and etc.

END OF COMMENTS

Responses from Maxis Communications Bhd Public Inquiry Paper On Proposal for the Determination of Mandatory Standards For Quality of Service

PSTN SERVICE

1. Page 7, Sections 21 & 22 (Performance Installation Orders)

Presently Maxis collects all installation orders from our customer in a given day and process it the next working day. We also note that public holidays and weekends are excluded from the consideration. Maxis also has implemented 3rd party registration service which allows greater access to the public. We would like to request that the 24hr and 48hr requirements is extended by an additional 24 hrs for request for installation made through these 3rd parties.

2. Page 9, Section 31 (Service Restoration Performance)

We would like to suggest that the definition to be amended with the restoration time calculation to exclude Weekends and public holidays.

3. Page 10, Section 36 (Billing Performance)

We would like to seek clarifications on the definition of "billing error" and "billing disputes". What are the specific areas that can be categorised under "billing error" and "billing disputes".

4. Page 10, Section 38 (Billing Performance)

We suppose the timeline in resolving billing dispute relates to resolving only the "wrong billing" issues. We also suppose other complaints relating to wrong bills and later turn out to be related to fraud will not be included in the measurement here.

5. Page 10, Section 39 (Billing Performance)

We understand that refund must be made within 3 months from our acceptance of termination notice where there are no outstanding amounts due. Therefore we would like to propose that deposit not refunded after 3 months is categorised under "deposit not refunded" and the category for “deposit refund delay” is removed completely from the types of billing. We also would like to point out that on the bills received late could be due to delays beyond the control of the service providers.

6. Page 10, Section 40 (Billing Performance)

What time frame is used to calculate the accuracy of bills and timelines in resolving billing dispute? Are the stats collected over the 6 months period?

7. Page 12, Section 50, 51 & 52 (Operator Speed of Answer)

We would like to suggest that a two-tiered measurement is used. One is for operator access without an interactive voice response (IVR) system and the other is for access to a life operator going through IVR. It is very important to note that there is a fundamental difference between IVR and non-IVR calls in terms of efficiency of accessing the appropriate operator. Also it is important to note that an IVR system allows for the allocation of one number for various services. In contrast, non-IVR system requires the numerous dial-in numbers to cater for the various services, which the customers must remember.

PUBLIC CELLULAR TELEPHONE APPLICATION SERVICE

1. Page 15, Section 69 (Billing Performance)

We presume that the billing performance requirements do not cover pre-paid subscribers since there are no bills issued. Further we would like to seek clarifications on the definition of "wrong billing". What are the specific areas that can be categorised as wrong billing?

2. Page 15, Section 70 (Billing Performance)

What time frame is used to calculate the accuracy of bills and timelines in resolving billing dispute. Are the stats collected over the 6 months period?

3. Page 15, Section 71 (Billing Performance)

We suppose the timeline in resolving billing dispute relates to resolving only the "wrong billing" issues. We also suppose other complaints relating to wrong bills and later turn out to be related to fraud will not be included in the measurement here. We also would like to exclude "wrong billing" arising from International Roaming from the measurement. This is because resolution of "wrong billing" relating to International Roaming is dictated by the efficiency of the foreign operators providing the necessary information.

4. Page 16, Section 76 (General Customer Complaints)

We would like to seek clarification how MCMC will ensure the reports provided by service providers are genuine?

5. Page 17, Section 82 (Endpoint Service Performance)

We acknowledge that the definition of end-points as interface between and the equipment providing the access to the service. We would however like to point out that end-to-end connection is established and maintained through various nodes in a cellular as well as PSTN network. It is subjected to multiple interfaces consisting of

inter-operator, intra-operator and fixed-line (PSTN) connections, therefore a complete benchmarking for end-point service measurement should include end-to-end evaluations of the involved network as experienced by the end-users (Mobile Originating, Mobile Terminating calls, from Test-mobiles and PSTN lines).

It will also allow differentiating the location of a dropped call along its connection path and accounted for accordingly.

6. Page 18, Section 89 (Endpoint Service Performance)

We propose consideration of conducting test-measurements on a quarterly or bi-annual basis, sample measurements are constantly affected the dynamic changes in subscriber behaviour, call- traffic, improvements and upgrades implemented by operators, which causes variances of results over time.

We would like to propose that the measurements for drive and static test data should contribute to a 50:50 ratio. The reason is that a significantly higher percentage of users originate/terminate from "static" environment, this must be reflective in the ratio. The “static” scenario should include “indoor” measurements.

For inter-network test, calls are also affected by failures beyond the MSC (i.e. PLMN gateway and PSTN) therefore end-to-end connection should be considered.

7. Page 18, Section 90 (Endpoint Service Performance)

We would like to seek clarification on the method used in the case when the call is blocked or dropped. Does this mean that the call that is dropped or blocked will immediately redial or have to wait for the completion of the test-sequence (after 60 seconds + 5 seconds) before initiating another call?

The 5 sec idle time is not enough for the terminating mobile phone to release the call and prepare for the next call. In case that first call is blocked, (due to the un-preparedness of the terminating mobile phone in 5 sec) and waited for another 60 secs before attempting next call. This will allow sufficient time for the terminating mobile phone to prepare for this call, but the next call has high probability to be blocked because it will allow only 5 sec to terminating mobile phone to prepare for that call.

We suggest interval time to be increased to 20 sec and call holding time as 100 sec. This will allow sufficient time for Call Holding scenario as well as enough time for terminating mobile to prepare for next call.

8. Page 18, Section 91 (Endpoints Service Performance / System Drive Test)

The system drive test must make measurements over a fixed distance only and not over a fixed time frame. If it is based on fixed time, the measurements made will not be geographically uniform. For example, when the measurement is taken while the vehicle is slowed down due to traffic, more sample measurement will be made at the same location. If this location has good coverage, many measurements from the same good location are made and will skew the results in a positive manner. However if this location has poor coverage, many measurements from the same bad location are made and will skew the results inaccurately in a negative manner.

9. Page 18, Section 92 (Endpoints Service Performance / System Drive Test)

We would like to suggest that the minimum sample size is increased to 100 calls to improve the accuracy of the test. We are also concerned with the placement of the dedicated originating and terminating mobile unit's antennas in the same vehicle. The first concern is that the testing done here is an intra-cell call. This means the call originates and terminates within the same cell site. From our experience, the overwhelming majority of calls are inter-cell calls (where the originating and terminating calls are in different cells.) As such this test does not simulate the actual situation. Statistically if a intra-cell call is placed, the network will need to allocate two traffic channels within the same cell. This will lead to a higher probability of call blocking for a network that has more subscribers than the network that has lower subscribers. This probability of call blocking is further increased on networks that are allocated with lesser radio spectrum than a network with more Spectrum. To simulate the actual call scenario, we would like to suggest that the originating and terminating calls are made from two separate vehicles that are located in different cells.

Another option is that the call is made to a test mobile which is in a fixed location outside the cell site of where the originating mobile is located. Further to this test-mobile originating (sending) and terminating (receiving) calls, alternative measurements such as calls to fixed PSTN line should be considered as well.

10. Page 18, Section 93 (Endpoints Service Performance / System Drive Test)

We would like to suggest that the minimum sample size is increased to 100 calls to improve the accuracy of the test. The test scenario should include significant proportions of "indoor" measurements, representing users roaming or stationary within buildings. Proportion of the test should include "peak-hours" (7.00-8.00am till 6.00-8.00pm) to represent after-business hour's traffic.

INTERNET ACCESS SERVICE

1. Page 20, Section 97 (Dialup Performance)

We would like to propose a new standard for Time to access. The proposed new standard is:

Time to access - 90% of attempts are connected within 30 seconds.

2. Page 20, Section 99 (Dialup Performance)

We would like to propose a new standard for Average File Download time. The new proposed standards is:

Average File download Time - 65% modem line speed at least 80% of the time.

We would like to request at least 4 months lead time for implementation of this proposed new specifications.

3. Page 21, Section 106 (General Customer Complaints)

We support the proposal by MCMC on General Customer Complaints.

4. Page 22, Section 111,112 (Billing Performance)

We support the proposal by MCMC on this section accuracy of billing and timelines in resolving billing disputes.

MIMOS BERHAD

COMMENTS ON THE PROPOSAL FOR THE DETERMINATION OF MANDATORY STANDARDS FOR QUALITY OF SERVICE

The Public Inquiry Paper from Malaysian Communication and Multimedia Commission

23 May 2002

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Introduction

This paper is MIMOS' response to the invitation from the Malaysian Communication and Multimedia Commission (MCMC) to submit comments on the Proposal for the Determination of Mandatory Standards for Quality Service (the Proposal) dated 8 April 2002 and due to the Commission by 12 noon, 23 May 2002.

Questions for Comments from the Commission

2.1 The Commission solicits comments on the appropriateness of the items listed in Chapter 2 of the Proposal. Notwithstanding, the Commission welcome suggestions on any additional type of services and/or items that would requires the QOS standards to be determined.

2.2 The Commission seeks comments in mandating service providers to abide by the QOS standards listed.

JARING

MIMOS Berhad, through JARING initiative, is the pioneer in providing Internet services in Malaysia starting from 1987. Currently JARING is one of the main Internet Service Provider (ISP).

Providing the best service is always one of JARING focus. JARING is always very sensitive to customers' satisfaction and always striving to improve network performance and overall services. Therefore response time to customers complaints and recovery of outages is very fast.

JARING is fully dependent on the telecommunication service providers and their quality of service as JARING is an ISP without own physical infrastructure.

There were several phases of the Internet services which may impact service quality. Initial access was via direct dialup lines. In Jun 1996, due to revision of local call tariff and government's direction to encourage usage of Internet by providing special rate for Internet, short-code 1511 for JARING was implemented by Telekom Malaysia. The short-code was implemented for the convenience for the users. There are issues on capacity especially at trunk for 1511 whereby while JARING has free capacity at access equipment but users may got busy tone to access JARING.

4.0 Comments on the Proposal

JARING will be addressing issues related to Internet Access and dependency on the telecommunication infrastructure performance including service delivery, timely available capacity and customer complaints.

Internet access services via dialup is dependent on the available capacity of trunk and quality of service provided by the PSTN service providers. Currently, Telekom being the largest service provider of dialup lines for JARING services, do not provide Service Level Agreement (SLA) even though it is always requested.

As per item 16 in Chapter 1 of the Proposal, "CASP/ASP are advised to look into or arrange for SLA with their NSP and NFP providers" to achieve minimum QOS standard in CMA licensing framework cannot be met due to unavailability of the SLA.

The Commission may want to look into or study the metrics of standards between service providers at all levels and proposed some target standards to monitor and maintain QOS.

4.1 PSTN Services

Performance of installation orders
The Proposal states that this is applicable to residential and business installation orders only on assumption network infrastructure are available. Need to define standards for CASP/ASP orders and standards on new provisioning of network infrastructure or additional capacity if not available.

4.1.2 Service Trouble Report Rate

4.2 Internet Access Services

Dialup Performance (pg 20 Item 97-99)
The standards are dependent on the PSTN dialup service performance – the telecommunication network. How to ensure the line quality from customers' premises to exchange and subsequently to ISP equipment?

MCMC may need to undertake study on this issue to determine local standards as complaints from customers on access issues can't be isolated to customers equipment, telecommunication services or ISP equipment/services.

4.2.2 General Customer Complaints (pg 21 Items 101-106)

Standard stated is less than 50 complaints per 1000 customers per year. This standard should exclude the unavailability of service, service disruption, late service provision and late service restoration due to dependency on third party (telecommunication

providers) unless it is confirmed genuine ISP related equipment and service issues.

4.3 Leased-lines services should have mandatory standard covering performance installation orders, service trouble report rate, service restoration performance, billing performance and general customer complaints.

4.4. Need for resolution of following issues at NFP/NSP to NSP/ASP level.

4.4.1 We should request that should be a more deterministic and transparent process to get service delivery from any NFP/NSP. For example, if we order a PRI or leased-line (in order to expand our network to maintain certain quality of service level), we should get it delivered within a pre-defined (&published) timeframe or "no-available" answer immediately without this at NFP/NSP level it would be close to impossible to offer good QoS to end users

4.4.2 There must also be first come first served principle applied. We should get an "order number" which is published on the web (without the applicant's name) for every body to see and check the status of the application.

4.4.3 There must be an obligation for NFP/NSP to respond to (or acknowledge) written inquiry from IASP/CASP within a certain reasonable timeframe.

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22 May 2002

Ybhg Tan Sri Nuraizah Abdul Hamid
Chairman
Malaysian Communications and Multimedia Commission
Aras 11, Menara Dato Onn
Putra World Trade Centre
45 Jalan Sultan Ismail
50480 Kuala Lumpur

Dear Ybhg Tan Sri,

FEEDBACK ON QUALITY OF SERVICE MANDATORY STANDARDS

Firstly, we would like to put on record our appreciation of the Commission in calling for a public enquiry on this topic. TIME, being a major player in the telecommunication sector welcomes the opportunity to provide our comments. These are attached.

YBhg Tan Sri, TIME share the same view that as the market grows more competitive, service quality will become the differentiating factor amongst operators in attracting and retaining customers. In this submission, we wish to highlight the following points:-

- Surveys conducted should be meaningful in terms portraying the real picture of the standard of quality of the network. Equal coverage should be made for perception surveys and technical audit of network.
- As part of the survey process, adjustments should be made to ensure that there is a level playing field before performances are compared especially when operators are dependent on other networks in the delivery process.
- There should not be selective publication of the results of surveys as this could be misinterpreted and may affect the actual standing of the operators. Additionally, adequate exposure of the survey results should also be made.

Mr Toh,
May be you would like to take note on the issues raised. Ref
Thanks.

22/NCA, Nc 24/5
For your attention

SI
RDAK

28/5

Ref : CMC-QOS Public Enquiry

Going forward, TIME is always open to new ideas and technologies that can benefit the marketplace and is supportive of a collective effort in achieving high quality standards for the industry. We believe the proposed standards will act as a catalyst for all the industry players to compete in a healthy manner and provide the best service for consumers. Accordingly, we trust that our comments will be taken into consideration and should further clarification be needed, we would be more than happy to discuss further.

Thank you.

Yours sincerely,
TIME dotCom BERHAD

Robert Fox
Chief Executive.

COMMENTS ON STANDARDS FOR QUALITY OF SERVICE

No.	Page	Item	Comments
1	3	4	We note the existence of the Consumer's perception of service quality surveys conducted by the Commission. We however wish to highlight again that there are basic flaws in the survey particularly on the issue of sample size, which does not put everyone on level playing field. The results have been misleading and we believe that in future, this will not be repeated.
2	4	7	Advertising (including false claims) does influence the purchasing decision of the public. There will be people that are not willing to go through the inconvenience of changing numbers too often and as such these people will become victim of initial misleading advertisement. We believe the Commission should formalise a new standard on permitted advertising in order to ensure that certain standards are adhered to. The problem in hand is not so much the full fledged telcos but those from ASPs.
3	4	8	Can the Commission be more specific on the frequency of testing and auditing so that the industry can benefit from knowing the frequency of feedback information from the Commission. Additionally, it may be useful for the Commission to inform the operators once the test has commenced (and not before) to cater for events such as major breakdowns of equipment or MSC or BTS so that the results of the test can be more meaningful.
4	5	11	We need to seek clarification as to what is auditable and what is not auditable so that these can be informed to the public. We suggest that once these are audited, the results should be made public. This is probably the best way to negate false claims and misleading advertisements.
5	5	13	We anticipate that setting of standards for Internet Access service and content applications would be difficult to establish due to high dependence on the incumbent's network "real" and "unreal" performance. The industry has been suffering from the dilemma of access manipulation and as such we urge that the Commission would pay particular attention to this service standard offered by the incumbent since there is little the ASP operators could do if there are network issues.
6	5	14	Can the Commission state where the reports will be published and the frequency of each coverage. This is to ensure that there is enough opportunity for the public to sight the reports.
7	5	16	We have concerns on how this can be standardised since the ASPs being access seekers may only be able to offer different class of SLAs. We believe the Commission must set mandatory minimum standards for NFP /NSP when services are offered to ASPs. In any case, different level of SLAs may be allowed on bilateral terms.

No.	Page	Item	Comments
8	7	21	We are not agreeable to the standard set for delivery of service within 24 hours as a considerable time is needed to process a service order into the system and the actual installation of service. We suggest that this be deleted and modify section 22. This due to the need of not only capturing customer data in the system but also to activate the switches and billing system.
9	7	22	We propose a standard of whereby 80% of the applicants should receive service within 96 hours.
10	7	23	We are agreeable to the standard set.
11	8	25	To be amended in line with item 21 and 22 above.
12	8	27	We are agreeable to the standard set.
13	9	32 & 33	We are agreeable to the standard set.
14	10	37	We are agreeable to the standard set.
15	10	38	We are agreeable to the standard set.
16	11	44	We are agreeable to the standard set.
17	12	50	Standards for emergency calls not applicable (no service provided). We propose 80% of calls answered within 20 seconds for others. We do not have measurement for calls encountering busy signal since RVAs are used. Furthermore this is subject to personal presence which could be due to absenteeism from the service counter at the time of call.
18	13	55	We are agreeable to the standard set.
19	13	56	We suggest that the results should be adjusted with the factor of network performance of the other connecting network since POI capacity can become an issue affecting the results. It is possible that network tampering could affect call connection.
20	14	61	We are agreeable to the standard set.
21	14	65	During the period of testing, we suggest that the appropriate time be chosen to reflect the actual network quality or limitations (e.g the differences between busy and normal hour).
22		Additional Comments	We propose to include Post Dialling Delay (PDD) standards for both Intra and Inter network call connection service. This is relevant for the case of Equal Access and also other services involving Carrier Selection Codes.
23	15	70	We are agreeable to the standard set.

No.	Page	Item	Comments
24	15	71	We are agreeable to the standard set. Working days to be defined.
25	16	78	We are agreeable to the standard set.
26	16	79 Additional comments	(d) Unavailability of service (please define unavailability of service). Will areas without initial coverage be included as part of unavailability of service?
27	18	86,87 & 88	We are agreeable to the standard set.
28	18	91 Additional comments	Please explain how 010, 011 & 018 network will be tested due to no SIM card used. This is to ensure that common testing parameters are applied to all networks.
29	18	92	We would also suggest that the time of the test will not be confined only to business days (need to define business days) only since mobile traffic is known to differ from fixed line patterns. We propose that night time traffic measurements should also be made.
30	19	94 Additional comments	Please confirm that : 1. Will CMC hold a session to discuss overall results with the service Providers? The purpose is to ensure that there may be logical explanation to any unsatisfactory result at the time the test is conducted. 2. Will there be option for retest?
31	20	97,98 & 99	We are agreeable to the standard set. However it has to be noted that ISPs are dependent on the quality of network provided by NFPs / NSPs.
32	21	106	We are agreeable to the standard set.
33	22	111	We are agreeable to the standard set.
34	22	112	We are agreeable to the standard set.

-----Original Message-----
From: hazman [mailto:hazman@tm.net.my]
Sent: Wednesday, April 10, 2002 11:10 PM
To: qos@cmc.gov.my
Subject: Inadequacy of the Billing performance quality criteria

Dear Sir/Mdm,

I like to provide some comments in relation to the issue of billing performance. The proposed quality of service standards (QOSS) pertaining to billings merely looks at the quality of the process in handling billings related queries. What is even more fundamental than this is the question of the credibility and reliability of the billing system itself. By this I mean the software, hardware and the people who are involved and are the basis of the billings. Is the billing system audited to ascertain and assure all users that the programmes are indeed calibrated to time and charge as printed in the bills. The billings are generated by this system and unless the system is adequately, independently and periodically audited and the results publically announced, the QOSS will may be addressing a minor issues of quality and accountability. I have not todate read or heard of any independent checks to ascertain the integrity of the billing system. Often, compliants of unrealitically high billings may have at its root the billing system and merely looking at how quickly these matters are setlled may be measuring the inappropriate. Looking at how some wrongful billings are settled does not inspiore confidence because no explanation as to how it occurred is never advanced to the aggrieved. Getting the users assured that billings systems are beyond tampering through a system of strong internal controls, will automatically reduced many of the process issues. Therefore, I urge the commission as the guardian of public and user interests to pay attion to the presence and/or quality of the control of the billing system in each and every TELCO. Some standards p[ertaining to this should be created and made mandatory.

Dr. Hazman Shah Abdullah
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Universiti Teknologi MARA
Shah Alam, Selangor. D.E.