

Measuring Authorised Operator Quality of Service Performance

Report on Consultation and Decision

June 2005

CONTENTS

1. INTRODUCTION.....	3
2. DEFINITIONS	5
3. LEGISLATIVE BACKGROUND	7
3.1 Maltese Legislation	7
3.2 EU Regulatory Framework.....	7
4. ETSI PRINCIPLES FOR THE COLLECTION OF QOS DATA COLLECTION.....	9
5. RESPONSES TO THE CONSULTATION	10
6. QoS INFORMATION REQUIRED FROM AUTHORISED PROVIDERS.....	11
6.1 Fixed Telephony Networks.....	11
6.2 Mobile Telephony Networks	12
6.3 Leased Lines Providers.....	13
6.4 Television and Radio Distribution Services	13
6.5 Other Electronic Communications Services	13
7. AUDITING OF RESULTS	14
8. ENFORCEMENT PROVISIONS.....	14
ANNEX 1 – Fixed Telephony QoS Performance Report Form	15

1. INTRODUCTION

In October 2004, the Malta Communications Authority (MCA) published its Consultative Paper with the title: Measuring Authorised Operator Quality of Service Performance. The scope of the document was to seek the views of interested parties and service providers regarding the publication of periodical reports enabling the public to assess the performance of authorised service providers.

Taking into account the experiences of other European National Regulatory Authorities (NRAs), it transpires that detailed QoS information requirements often resulted in expensive setups for both NRAs and the service providers to manage such processes. The MCA is of the view that it is fundamentally important that the information collected, analysed and published is reasonable and meaningful to the consumer and to the industry in general. After all, the objectives underpinning the requirements of the Universal Service Directive are meant to improve where necessary, the delivery mechanisms of the various service offerings by operators. The information requirements that would need to be requested from the authorised providers should take place only if they would help to achieve such an objective.

During the consultation process the MCA assessed the current quality of service provided by the operators in the business segments addressed in the consultation document. It transpired that the overall quality of service standards within the identified parameters was satisfactory and compares well with other European countries. In this respect, the MCA decided to limit the obligation to publish quality of service performance measurements solely to the authorised service provider designated with a Universal Service Obligation i.e. Maltacom plc.

The MCA will be monitoring the quality of service performance (as set out in this Decision) of the service providers on an ongoing basis. Electronic Communications Services' (ECS) quality standards will be measured (benchmarked) against those provided in other European Union jurisdictions in accordance with internationally accepted standards and practices whenever the performance measurement criteria used by these countries are deemed compatible for benchmarking purposes.

In the event that quality of service standards are not being achieved by the operators providing electronic communications services in the market, the MCA reserves the right to require any Electronic Communications Service provider to publish comparable and up-to-date information in the future. This would take place only if the quality standards provided by the current service providers deteriorates or if the quality of service provided by any new entrant is not considered to be adequate.

2. DEFINITIONS*

Supply time for initial connection: The duration from the instant of a valid service order being received by a direct service provider to the instant a working service is made available for use.

Faults rate per access line: A fault report is a report of disrupted or degraded service that is made by a customer and is attributable to the network of the service provider or any interconnected public network, and that is not found to be invalid.

Faults repair time: The duration from the instant a fault has been notified by the customer to the published point of contact of the service provider to the instant when the service element or service has been restored to normal working order.

Unsuccessful Call ratio: Unsuccessful call ratio is defined as the ratio of unsuccessful calls to the total number of call attempts in a specified time period. An unsuccessful call is a call attempt to a valid number, properly dialled following dial tone, where neither called party busy tone, nor ringing tone, nor answer signal, is recognized on the access line of the calling user within 30 seconds from the instant when the address information required for setting up a call is received by the network.

Call set-up time: The call set up time is the period starting when the address information required for setting up a call is received by the network (e.g. recognized on the calling user's access line) and finishing when the called party busy tone or ringing tone or answer signal is received by the calling party (e.g. recognized on the calling user's access line).

Response times for operator services: The duration from the instant when the address information required for setting up a call is received by the network (e.g. recognized on the calling user's access line) to the instant the human operator answers the calling user to provide the service requested. Services provided wholly automatically, e.g. by voice response systems, are excluded.

Response time for directory enquiry services: The duration from the instant when the address information required for setting up a call is received by the network (e.g. recognised on the calling user's access line) to the instant the human operator or an equivalent voice-activated response system answers the calling user to provide the number information requested.

Proportion of card and coin operated public pay-telephones in working order: The proportion of public pay-telephones in full working order, i.e. the user is able to make use of the services advertised as normally available.

Bill correctness complaints The proportion of bills resulting in a customer complaining about the correctness of a given bill. A bill correctness complaint is an expression of dissatisfaction with a bill received from a customer. A bill correctness complaint should not be confused with a billing query (a request for information) or with a fault report.

** As defined in ETSI Eg201 769-1 (2000-10)*

3. LEGISLATIVE BACKGROUND

3.1 Maltese Legislation

The Electronics Communications Networks and Services (General) Regulations 2004, make several references to Quality of Service, particularly Regulations 33 and 42. These Regulations are based on the requirements of the Universal Service Directive (i.e. Universal Service Directive 2002/22/EC of the European Parliament and of the Council) as described below.

3.2 EU Regulatory Framework

The Universal Service Directive (USD) establishes the European regulatory framework attributable to the collection and publication of QoS information. It states that quality of service and price are key components in the physiognomy of a competitive market; and National Regulatory Authorities (NRAs) should be able to monitor the performance of authorised providers, which have been designated with a Universal Service obligation, and to ensure that performance targets are achieved. In relation to the quality of service standards achieved by such undertakings, NRAs should also be able to monitor the performance of other undertakings providing publicly available electronic communications services.

Article 11 of the USD requires NRAs to ensure that universal service providers publish comparable and up-to-date information for end-users regarding the quality of their services. Article 22 of the USD ensures that NRAs may require publicly available electronic communications services to publish comprehensive, comparable and user-friendly information in the manner the said NRAs consider would be best suited for the purpose.

The establishment of QoS parameters, definitions and performance assessment by NRAs of undertakings designated with a Universal Service Obligation (USO), shall be based on the European Telecommunications Standards Institute guide (ETSI) EG 201 769 Quality of Service Parameters (Annex III of the USD). These standards can also be applied to other market players of publicly available electronic communications services.

The ETSI document contains a series of harmonised definitions and measurement methodologies applicable to a range of user perceivable QoS parameters attributable to standard voice telephony service.

4. ETSI PRINCIPLES FOR THE COLLECTION OF QoS INFORMATION

ETSI encourages that the following principles should be taken into account as far as practicable:

1. ONP (Open Network Provision) QoS parameters should be easily understood by the public, and be useful and important to them,
2. All parameters are applicable at the network termination point,
3. Where measurements are possible they should be made on the customer's premises, using in-service lines,
4. To be as realistic as possible, real traffic rather than test calls should be used as a basis of the measurements, whenever possible,
5. Parameters should be verifiable by independent organisations. This process of verification could be effected through direct measurements or by auditing the service provider's systems of performance measurement,
6. The accuracy of QoS values should be set to a level consistent with the measurement methodology; which should be as simple as possible with the lowest cost,
7. The parameters are designed for both statistical and individual application. The statistical values should be derived by the application of a simple statistical function to the individual values. The statistical function should be specified in the standard and the standard should also include guidelines on the selection of statistically significant samples,
8. The statistical functions should be designed in a way that QoS figures originating from different service providers can be compared easily by users and most importantly by consumers.

5. RESPONSES TO THE CONSULTATION

The consultation period for the Consultative Paper with the title "Measuring Authorised Operator Quality of Service Performance" ran from 21 October 2004 to 3 December 2004.

Responses were received from the following:

- Maltacom plc,
- Vodafone Malta Ltd.
- Melita Cable plc.

The Malta Communications Authority wishes to thank all these parties for their responses and contribution to the consultation process.

6. QoS INFORMATION REQUIRED FROM AUTHORISED PROVIDERS.

In the consultation document the MCA suggested the publication of Quality of Service performance results for Fixed and Mobile telephony networks, Leased Line providers and the Cable TV operator. The following decisions are based on the legislative requirements, the current quality of service being achieved in the various sectors and whether the benefits achieved by these reports justify the costs of their implementation and monitoring.

6.1 Fixed Telephony Networks

Maltacom, as the sole provider of a fixed Public Communications Network and Publicly Available Telephone Service, with a Universal Service Obligation, shall publish annual QoS information, as required by the Electronics Communications Networks and Services (General) Regulations 2004 on the basis of the Quality of Services Parameters based on the ETSI guide EG 201 769 (Annex III of the USD), namely the following:

- Supply time for initial connection,
- Fault rate per access line,
- Fault repair time,
- Response time for operator services,
- Response time for directory enquiry services,
- Proportion of coin and card operated public pay telephones in working order,
- Bill correction complaints.

After considering the responses to the consultation, the MCA decided to exclude the requirement concerning the performance measurement for Unsuccessful Call Ratio and Call Setup Time parameters. Other fixed telephony service providers are not required to publish QoS performance results.

Specimen Form for USP Fixed Telephony Services QoS Performance Report – Annex 1

Decision 1:

The MCA directs Maltacom plc as the fixed Public Communications Network and Publicly Available Telephone Service provider designated with a Universal Service Obligation, to publish on an annual basis Quality of Service performance results (covering a period of one calendar year) by not later than 01 March of the following year.

Maltacom plc are requested to publish these results on their website using the format: *Fixed Telephony QoS Performance Report Form* found in Annex 1 (of this Decision) which is based on the ETSI EG201 769-1 standard. Other fixed telephony providers without universal service obligations are not required to publish these reports.

6.2 Mobile Telephony Networks

The MCA considers that the quality of services currently offered by the existing mobile telephony networks is satisfactory and therefore at this stage both mobile network operators will not be required to publish quality of service performance results. However, the MCA encourages the mobile network operators to publish QoS results on a voluntary basis on their respective websites using the following QoS parameters:

- Fault rate per access line,
- Fault repair time,
- Response time for operator services,
- Response time for directory enquiry services,
- Bill correction complaints.

The MCA reserves the right to independently audit these results in the event that these are published for public consumption.

Decision 2:

The publication of Quality of Service performance results are not being mandated on mobile telephony networks. The MCA encourages all Mobile Telephony Network services providers to voluntarily publish annual QoS performance results on their respective websites using the following parameters:

- Fault rate per access line,

- **Fault repair time,**
- **Response time for operator services,**
- **Response time for directory enquiry services,**
- **Bill correction complaints.**

The MCA reserves the right to independently audit these results if they are published.

6.3 Leased Lines

Maltacom plc as the sole designated Leased line service provider is currently furnishing the MCA with information, which includes delivery periods and repair times on an annual basis. These results are published in the European Commission's Annual Report on performance in the supply of leased lines. , This report is considered as satisfactory in relation to the availability of information for public consumption; and therefore Maltacom will not be required to publish any additional QoS reports in relation to the results for delivery periods and repair times of leased lines services.

Decision 3:

The MCA requires Maltacom to publish QoS performance results for the delivery period and repair time parameters as reported in the European Commission's Annual Report on performance in the supply of leased lines.

6.4 Television and Radio Distribution Services

Taking into consideration the quality of service standards adopted by the existing Cable TV service provider and the emerging competition using different wireless technologies, the MCA decided not to mandate any QoS requirements on the existing Television and Radio Distribution Service provider(s).

6.5 Other Electronic Communications Services

Other Electronic Communications Services such as VoIP, is being dealt with through another Consultation Paper.

7. AUDITING OF RESULTS

The MCA reserves the right to independently audit the operators' information systems relating to the QoS parameters indicated above. The MCA appointed independent auditors could also be requested to confirm that the data capture processes for assembling QoS data are likely to ensure accuracy within a 3% + or - range.

8. ENFORCEMENT PROVISIONS

The pertinent legislative provisions empower the MCA to collect QoS information from the authorised providers within the frequency and detail as established by the MCA. Non-compliance with such obligations may result in legal action taken against the defaulting operator as provided by the Electronic Communications (Regulation) Act, 2004 and subsidiary legislation.

Joseph V Tabone
Chairman

10 June 2005

ANNEX 1 – Fixed Telephony QoS Performance Report Form

Fixed Telephony Quality of Service Performance report

Authorised Service Provider: _____

Covering Period: _____ 200__ till _____ 200__

PARAMETER	MEASURE	STATISTIC
Supply time for initial connection	Time for fastest 95%	____ days
Fault rate per access line	Reports per 100 lines	____ reports
Fault repair time	Average fault removal time	____ hours
Response time for operator services	Mean Time to answer	____ seconds
Response time for directory enquiry services	Mean Time to answer	____ seconds
Proportion of coin and card operated public pay telephones in working order	% in full working order	____%
Bill correction complaints	Complaints per 100 lines	____ complaints

QOS results FT