

**Speech and multimedia Transmission Quality (STQ);  
User related QoS parameter definitions and measurements;  
Part 2: Voice telephony, Group 3 fax,  
modem data services and SMS**

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## Foreword

This ETSI Guide (EG) has been produced by ETSI Technical Committee Speech and multimedia Transmission Quality (STQ).

The present document is part 2 of a multi-part deliverable covering Speech and multimedia Transmission Quality (STQ); User related QoS parameter definitions and measurements, as identified below:

Part 1: "General";

**Part 2: "Voice telephony, Group 3 fax, modem data services and SMS";**

Part 3: "QoS parameters specific to Public Land Mobile Networks (PLMN)";

Part 4: "Internet access".

EG 202 057-1 [i.5] contains general user related QoS parameter definitions and measurement methods that can be applied to any service.

EG 202 057-2 (the present document) contains user related QoS parameter definitions and measurement methods for voice, Group 3 fax, modem data services and SMS accessed via the public telecommunication network. The data parameters are specified for the case where an ITU-T Recommendations V.90 [i.24] and V.92 [i.25], compliant modem is used since this kind of modem is in common use.

EG 202 057-3 [i.6] contains user related QoS parameter definitions and measurement methods specific to public land mobile networks (PLMN).

EG 202 057-4 [i.7] contains user related QoS parameter definitions and measurement methods specific to Internet access.

The present document takes into account as far as practicable the following eight principles:

- 1) 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 (where appropriate).
- 3) Where measurements are possible they should be made on the customer's premises, using in-service lines.

**NOTE:** Literally principles 2 and 3 imply that all measurements should be carried out at the NTP, which would require co-operation by users and be excessively intrusive, as it would require many visits to the premises of users. Measurements at the subscriber side of the local exchange (e.g. at the MDF or other possible connection point/distribution frame in the access network) generally give an adequate representation of the quality that would be perceived at the NTP for the parameters defined in the present document, and so this approach is used because it is more practicable and meets the underlying objectives of these principles.

- 4) To be as realistic as possible, real traffic rather than test calls should be used as a basis of the measurements, wherever possible.

- 5) Parameters should be capable of verification by independent organizations. This verification might be made by direct measurements or by audit of service provider's measurements.
- 6) The accuracy of QoS values should be set to a level consistent with measurement methods being as simple as possible with costs as low as possible.
- 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 this multi-part deliverable. This multi-part deliverable should also contain guidelines on how statistically significant samples should be selected.
- 8) The statistical functions should be designed so QoS figures from different service providers can be compared easily by users and in particular consumers.

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# 1 Scope

The present document contains definitions and measurement methods for a range of user perceivable Quality of Service (QoS) parameters. The purpose of these parameters is to define objective and comparable measures of the QoS delivered to users/customers for use by users/customers. The present document applies to any telecommunication service, however, some parameters may have a limited application.

The present document is intended to provide a menu from which individual items can be selected. There is no obligation to use any or all of the parameters.

The QoS parameters are related primarily to services and service features and not to the technology used to provide the services. Therefore the parameters should be capable of use when the services are provided on new technologies such as IP and ATM or other packet switched technologies as well as on circuit switched technologies.

The establishment of target values for QoS is beyond the scope of the present document. The QoS parameters listed in the present document are also not intended to assess the complete QoS of a telecommunication service. The present document provides a set of QoS parameters that covers specific user related QoS aspects rather than a complete list of QoS parameters. This set has been chosen to address areas where monitoring of QoS is likely to be most worthwhile, i.e. the areas that are most likely to be affected by any QoS problems.

If stakeholders wish to examine other QoS aspects they are recommended to follow the general approach of the present document - as far as practicable - as a basis for the development of definitions and measurement methods for new specific QoS parameters.

The set of QoS parameters is designed to be understood by the users of various telecommunications services. Sub-sets of these parameters can be selected for use in different circumstances. For example a specific parameter might be relevant for many users in some countries or markets but the same parameter might not be of relevance in others. Therefore stakeholders - users, customers, regulators, service providers, network operators and other parties interested in the use of QoS parameters - should decide in co-operation, which parameters and which measures should be used in their particular situation. This decision should take account of:

- The precise purpose for which they will be used.
- The general level of quality achieved by most operators/providers.
- The degree to which the parameters will provide a reliable comparison of performance.
- The cost of measuring and reporting each parameter.

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## 2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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### 2.1 Normative references

The following referenced documents are necessary for the application of the present document.

Not applicable.