International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

P.10/G.100

Amendment 2

(07/2008)

SERIES P: TELEPHONE TRANSMISSION QUALITY, TELEPHONE INSTALLATIONS, LOCAL LINE NETWORKS

Vocabulary and effects of transmission parameters on customer opinion of transmission quality

SERIES G: TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS

International telephone connections and circuits – General definitions

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Vocabulary for performance and quality of service

Amendment 2: New definitions for inclusion in Recommendation ITU-T P.10/G.100

Recommendation ITU-T P.10/G.100 (2006) – Amendment 2

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TELEPHONE TRANSMISSION QUALITY, TELEPHONE INSTALLATIONS, LOCAL LINE NETWORKS

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Recommendation ITU-T P.10/G.100

Vocabulary for performance and quality of service

Amendment 2

New definitions for inclusion in Recommendation ITU-T P.10/G.100

Summary

Amendment 2 to Recommendation ITU-T P.10/G.100 provides a list of definitions for terms which are used regularly but often ambiguously. The reason for this ambiguity is that these terms are used in various contexts where they do not belong.

Therefore, it was agreed to include these definitions in Recommendation ITU-T P.10/G.100.

Source

Amendment 2 to Recommendation ITU-T P.10/G.100 (2006) was approved on 14 July 2008 by ITU-T Study Group 12 (2005-2008) under Recommendation ITU-T A.8 procedure.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure e.g. interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

Recommendation ITU-T P.10/G.100

Vocabulary for performance and quality of service

Amendment 2

New definitions for inclusion in Recommendation ITU-T P.10/G.100

Introduction

The following definitions are to be included in Recommendation ITU-T P.10/G.100 in correct alphabetical order at the respective correct places. This Amendment 2 supersedes Amendment 1.

Active testing: Refers to the way that data is acquired actively for the measurement, i.e., that the test makes use of a dedicated channel for the measurement, e.g., by dialling a number and making a call, i.e., setting-up a channel for the measurement.

Double-ended: Refers to a type of measurement, i.e., the point(s) of the network where the signal(s) to be tested is (are) acquired. A double-ended measurement would require access to two sides of a telephony connection to, e.g., intrusively send a reference signal through a network under test while the resulting test signal will be recorded at another termination point of this network.

Full-reference model: Refers to a type of algorithm; in a full-reference model the algorithm requires a reference signal, which is usually compared to a test signal at the output of a device under test.

Intrusive testing: According to the definitions in Recommendation ITU-T X.745, clause 3.10.3, intrusive test means: "A statement made with respect to a test invocation if service/user disruption will or may occur as a result of the test". This refers to the way that data is acquired for the measurement, i.e., whether or not sending a specific predefined and known reference signal over a channel for analysis purposes is required.

NOTE 1 – In contrast to active testing, intrusive testing means that a test signal is sent over the network.

NOTE 2 – The combinations 'active and intrusive testing' and 'passive and non-intrusive testing' define the most common test situations.

Network end-point: A network end-point refers to a terminal at the receiving user's side which is connected to the measurement system either electrically or acoustically.

Network head-point: A network head-point refers to a terminal at the sending user's side which is connected to the measurement system either electrically or acoustically.

Network mid-point: A network mid-point refers to any point in the network that is not the head point or the end-point which is connected to the measurement system either electrically or acoustically.

Non-intrusive testing: According to the definitions in Recommendation ITU-T X.745, clause 3.10.5, non-intrusive test means: "A statement made with respect to a test invocation if no service/user disruption will or may occur as a result of the test". This refers to the way that data is acquired for the measurement, i.e., whether or not sending a specific predefined and known reference signal over a channel for analysis purposes is required.

NOTE 1 – In contrast to active testing, intrusive testing means that a test signal is sent over the network.

NOTE 2 – The combinations 'active and intrusive testing' and 'passive and non-intrusive testing' define the most common test situations.

No-reference model: Refers to a type of algorithm; in a no-reference model the algorithm only requires the test signal to compute a measurement.

Offline (out-of-service) measurement: Offline measurements are performed when the network is out of service.

Online (in-service) measurement: Online measurement means that the results are obtained during regular use of a network. 'Online' is often understood to mean that measurement results are provided right away while, e.g., a test connection is still active and in use, thus evaluation and data-acquisition are run side-by-side.

Passive testing: Refers to the way that data is acquired passively for the measurement, i.e., that the test makes use of an existing channel for the measurement, e.g., by tapping a further defined point of this channel.

Quality of Experience (QoE): The overall acceptability of an application or service, as perceived subjectively by the end-user.

NOTE 1 – Quality of experience includes the complete end-to-end system effects (client, terminal, network, services infrastructure, etc.).

NOTE 2 – Overall acceptability may be influenced by user expectations and context.

Reduced-reference model: Refers to a type of algorithm; in a reduced-reference model the algorithm only requires the test signal and a set of parameters derived from the reference signal to compute a measurement.

Single-ended: Refers to a type of measurement, i.e., the point(s) of the network where the signal(s) to be tested is (are) acquired. A single-ended measurement would require only access to one side of a network, e.g., at a subscriber's termination point.

Wave-signal based: Refers to the kind of signal used by the measurement modules/algorithms. In a wave-signal based approach the measurement algorithms employed would analyse the wave-signals, as done for instance in Recommendation ITU-T P.862. Contrary to wave-signal based approaches, packet-information based measurement modules only work on the meta/header information of a packet stream like, e.g., P.564. Both approaches have their benefits and drawbacks and may therefore be employed in different applications according to how suitable they are.

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