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ITU-T

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E.420

TELEPHONE NETWORK AND ISDN

QUALITY OF SERVICE, NETWORK MANAGEMENT AND TRAFFIC ENGINEERING

CHECKING THE QUALITY OF THE INTERNATIONAL TELEPHONE SERVICE - GENERAL CONSIDERATIONS

ITU-T Recommendation E.420

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation E.420 was published in Fascicle II.3 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

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

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Recommendation E.420

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1 Quality of service parameters

An adequate picture of the level of quality of service (QOS) in the network can be defined by a set of parameters which are measured, registered and data processed.

In Recommendation E.800 a set of performance concepts is defined in order to provide a satisfactory description of the quality of service, and the interconnection of those concepts is shown. Each performance concept can be impaired by a number of particular causes. These causes, either singly or in groups, lie behind the failure symptoms observed by the user.

A user views the provided service from outside the network and his perception can be described in observed quality of service parameters. The link between the observed quality of service parameters and the impairment causes can be indicated in the form of tables.¹⁾

Five main observed quality of service parameters are derived; they reflect the quality of:

- i) providing the customer with the ability to use the desired services;
- ii) furnishing a desired level of service for:
 - connection establishment,
 - connection retention,
 - connection quality,
 - billing integrity.

These main parameters can be supervised by quality of service indicators (e.g. efficiency rate, call cut-off rate, etc.).

Objectives can be set for these indicators and can be revised at regular intervals.

When a deterioration of these supervision indicators is detected, or when an improvement programme is started, more data must be collected by measurements to permit a more detailed analysis in order to locate the impairment causes which lie behind the observed problem areas.

2 Methods of measuring the quality of service

2.1 The following methods of measuring the quality of service are described:

- 1) service observations by external means;
- 2) test call (simulated traffic);
- 3) customer interviews;
- 4) internal automatic observations.

2.2 Administrations are recommended to draw up a programme for observations and tests designed for assessment of circuits and equipment, supervision of operators and evaluation of the quality of service given to subscribers. It would be desirable if telephone Administrations were to exchange statistics on quality of service.

2.3 Table 1/E.422 relates to the manual and semi-automatic observations of the quality of international automatic and/or semi-automatic service. It provides in particular a check of the percentage of unsuccessful calls due to technical faults (equipment shortages or failures).

Table 2/E.422 relates the same information as Table 1/E.422 but does not include information which can only be obtained by operators listening in (automatic observation).

¹⁾ Such tables can be found in the handbook cited in [1].