INTERNATIONAL TELECOMMUNICATION UNION

CCITT

E.428

(10/92)

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

TELEPHONE NETWORK AND ISDN

QUALITY OF SERVICE, NETWORK MANAGEMENT AND TRAFFIC ENGINEERING

CONNECTION RETENTION

Recommendation E.428

FOREWORD

The CCITT (the International Telegraph and Telephone Consultative Committee) is a permanent organ of the International Telecommunication Union (ITU). CCITT 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 Plenary Assembly of CCITT which meets every four years, establishes the topics for study and approves Recommendations prepared by its Study Groups. The approval of Recommendations by the members of CCITT between Plenary Assemblies is covered by the procedure laid down in CCITT Resolution No. 2 (Melbourne, 1988).

Recommendation E.428 was revised by Study Group II and was approved under the Resolution No. 2 procedure on the 30th of October 1992.

CCITT NOTES

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

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Recommendation E.428

CONNECTION RETENTION

(revised 1992)

1 Introduction

Connection retention is one of the parameters influencing the Quality of Service (QOS) after the call has been set up. As the assessment of this parameter is difficult and costly, it is recommended to investigate only after information from sources such as operator trouble reports, subscriber complaints, interviews and/or service observations indicate that there is a problem.

2 cut-off call ratio

The cut-off call ratio is the percentage of the established calls that are released for a reason other than intentional by any of the parties involved in the call. The cut-off call ratio can only be measured by placing test calls (see Recommendation G.181).

3 Investigations required

Before measuring the cut-off call ratio the source information leading to the investigation should be utilized to the extent possible (see Annex B to Recommendation E.420) and the outcome should be compared with other relevant sources. For example, subscriber complaints can be followed up by investigating operator trouble reports.

These investigations should lead to a suspect part of the network.

4 Exchange of information

In case the suspect part of the network is outside the territory of an Administration, the Administration which has responsibility for the suspect part of the network should be contacted and informed of the results of the investigations. In the information given, the type of cut-offs should be classified by causes such as “absence of answer signal”, “artificial clearback signal”, etc.

5 Further investigation required

Within the suspect part of the network, the Administration should look for obvious causes of cut-offs such as exchange or facility failures. If obvious causes cannot be identified the Administration should consider test calls.

6 Test calls

One or both Administrations may decide to set up a test call programme.

International standardized test call types are contained in Recommendation E.424. As stated in that Recommendation, before applying type 3 test calls or subscriber-to-subscriber type test calls, it should be verified that there are no evident faults in the national network. This verification can easily be undertaken by applying non-standardized test calls, for example from the international centre to a subscriber number in the national network of the same country (see Recommendation E.424, 4) of § 1).

The usefulness of standardization in these kinds of test calls is under study in several Administrations.

For making test calls on connection retention, the responding equipment used should send an answer signal after 10 seconds followed by a continuous tone in conformity with Recommendation O.61. The threshold level of the detector in the directing equipment should also be in conformity with Recommendation O.61.

7 Objectives

The long-term objectives as well as the allocations are given in Recommendation G.181. In the intermediate time the following requirements should apply: the cut-off call ratio for subscriber-to-subscriber tests should, measured over 24-hour periods, be below 0.5% for 5 minute calls. In any time-consistent hour the call cut-off rate may not exceed 3%.

Cut-off problems have a severe impact on customer's perception of Quality of Service to destinations with a low answer seizure ratio.