**Recommendation E.428**

<p style="text-align:center">xe ""§CONNECTION RETENTION</p>

# 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 xe ""§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     xe ""§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%.

It should be noted that, in general, cut–off problems have a more severe impact on customers' perception of service on routes with a low answer seizure ratio than on routes with a low completion rate.