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SERIES E: OVERALL NETWORK OPERATION, TELEPHONE SERVICE, SERVICE OPERATION AND HUMAN FACTORS

Quality of services; concepts, models, objectives, dependability planning – Models for telecommunication services

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MODELS FOR THE ALLOCATION OF INTERNATIONAL TELEPHONE CONNECTION RETAINABILITY, ACCESSIBILITY AND INTEGRITY

Reedition of CCITT Recommendation E.830 published in the Blue Book, Fascicle II.3 (1988)

NOTES

1 CCITT Recommendation E.830 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.

Recommendation E.830

MODELS FOR THE ALLOCATION OF INTERNATIONAL TELEPHONE CONNECTION RETAINABILITY, ACCESSIBILITY AND INTEGRITY

Introduction

This Recommendation is one of a set of closely related Recommendations, comprising Recommendations E.810, E.830, E.845, E.850 and E.855 concerned with the accessibility, retainability and integrity of telephone services.

The CCITT,

considering

that there is a need to establish hypothetical reference connection models to allocate overall connection retainability, accessibility and integrity objectives to the component parts of international connections,

recommends

three models for retainability (one of which is for a typical, or average, international connection), and one model for accessibility and integrity.

1 Retainability models

The models are shown respectively, in Figures 1/E.830, 2/E.830 and 3/E.830. As indicated by Figure 1/E.830, the typical connection has two circuits in each of the national systems, and one in the international chain. In the 90th percentile case, there would be three in the national systems and one in the international chain.

2 Number of circuits

The number of circuits in each of the models is based on Table 1/E.830. The entries of this table are based on the information contained in Table 1/G.101.

The mean and model number of national extension circuits are both equal to 2. This applies to both originating and terminating national systems. The mean number of international circuits is 2.1 and the model number is 2.

TABLE 1/E.830

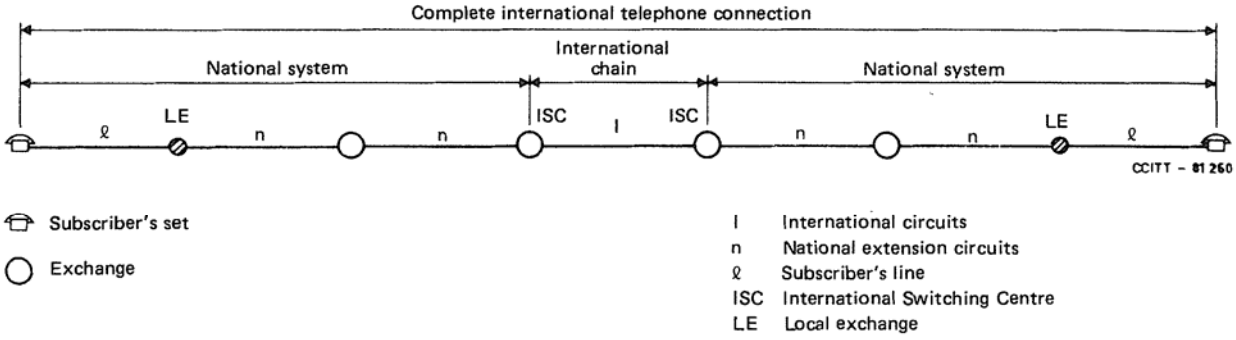
Probabilities of the number of circuits in the two national systems and the international chain (expressed as percentages)

Number of circuits	Originating LE-ISC	International ISC-ISC	Terminating ISC-LE'
1	33.8	95.1	32.9
2	38.9	4.5	39.5
3	20.2	0.3	20.4
4	6.0	–	6.1
5	1.0	–	1.0

LE Local exchange

ISC International switching centre

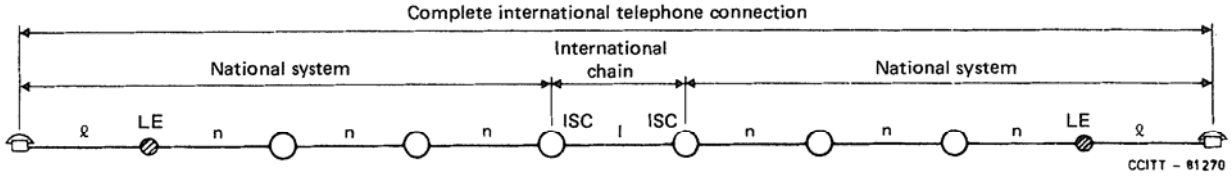
Note – The possibilities of 6 and 7 circuits in the originating national system are 0.005% and 0.0005% respectively. The probabilities of 4, 5 and 6 international circuits are 0.03%, 0.00007% and 0.00009% respectively.



Note – For the purposes of this Recommendation, the international switching centres are considered to be a part of the international chain.

FIGURE 1/E.830

Typical international telephone connection model

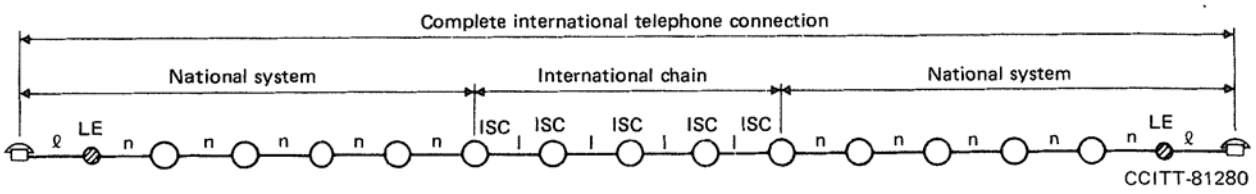


Note 1 – For an explication of legends, see Figure 1/E.830.

Note 2 – For the purposes of this Recommendation, the international switching centres are considered to be part of the international chain.

FIGURE 2/E.830

90th percentile international telephone connection model



Note 1 – For an explanation of legends, see Figure 1/E.830.

Note 2 – For the purposes of this Recommendation, the international switching centres are considered to be part of the international chain.

FIGURE 3/E.830

Possible longest international telephone connection model

3 Accessibility and integrity model

The model to be used for allocation of the connection accessibility and integrity objectives found in Recommendations E.845 and E.855 respectively to the national portions and international chains of international connections is shown in Figure 4/E.830.

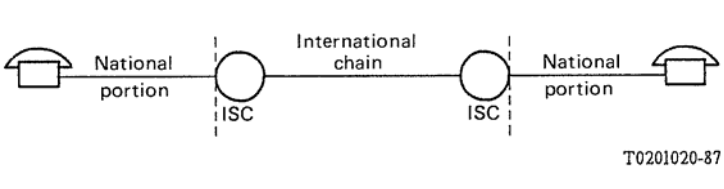


FIGURE 4/E.830

Model for allocating connection accessibility and integrity

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