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SERIES D: GENERAL TARIFF PRINCIPLES – CHARGING AND ACCOUNTING IN INTERNATIONAL TELECOMMUNICATIONS SERVICES

TARIFF PRINCIPLES APPLYING TO DATA COMMUNICATION SERVICES OVER DEDICATED PUBLIC DATA NETWORKS

SPECIAL TARIFF PRINCIPLES FOR INTERNATIONAL PACKET-SWITCHED PUBLIC DATA COMMUNICATION SERVICES BY MEANS OF THE VIRTUAL CALL FACILITY

Reedition of CCITT Recommendation D.11 published in the Blue Book, Fascicle II.1 (1988)

NOTES

1 CCITT Recommendation D.11 was published in Fascicle II.1 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 D.11

SPECIAL TARIFF PRINCIPLES FOR INTERNATIONAL PACKET-SWITCHED PUBLIC DATA COMMUNICATION SERVICES BY MEANS OF THE VIRTUAL CALL FACILITY

(Geneva, 1980)

Preamble

This Recommendation, which should be applied in conjunction with the provisions of Recommendation D.10, sets out the special tariff principles intended for application to the international packet-switched public data communication service by means of the virtual call facility.

It is recommended that this is a rapidly developing field at the present time in terms of the diversity of application and flexibility is therefore essential.

1 Definition

Definition of **virtual call (switched virtual connection)**.

One service of the packet switched data transmission services in which a call set-up procedure and a call clearing procedure will determine a period of communication between two DTEs in which users' data will be transferred in the network in the packet mode of operation. All the users' data are delivered from the network in the same order in which they are received by the network.

2 Principles for the application of charges

2.1 *Chargeable calls*

The following virtual calls are chargeable:

i) a call request for which the outgoing data switching exchange (DSE) sends to the calling DTE the call-connected packet after it receives the call-accepted packet from the called DTE (see the diagram in Figure 1/D.11);

ii) a call request which is cut off before the call-connected packet from the remote DSE is received by the local DSE, owing to one of the following reasons:

   a) one of the DTEs sends a clear request packet;

   b) remote procedure error of the DTE;

   c) local procedure error of the DTE.

2.2 Administrations reserve the right to apply a charge to all call attempts. This charge should not apply if an unsuccessful call attempt is due to congestion or a fault in the Administration's equipment.

3 Tariff components

3.1 The tariff for the service should consist of the following components:

– the network access component;

– the network utilization component.

3.2 *Network access component*

3.2.1 Access charges should be levied for each subscription and should normally be independent of network utilization. They may consist of:

a) an initial fee (non-recurring);

b) a subscription rental (payable at certain intervals, e.g. monthly, or quarterly, until the subscription is terminated).

3.2.2 Different access charges may apply for access from other public-switched networks, e.g. from the public telephone network to the packet-switched data network.

3.2.3 The access charges shall not be included in international accounts between Administrations and their establishment is strictly a national matter.

3.3 *Network utilization component*

3.3.1 The charges relating to the network utilization component should be proportional to the volume of information transmitted and to the duration of communication and should be calculated in accordance with the methods prescribed in §§ 3.3.2 and 3.3.3 below.

3.3.2 The volume of information transmitted should be measured and expressed in conformity with Recommendation D.12.

3.3.2.1 Any chargeable packet other than the data packet should be considered as a packet for which a charge corresponding to a segment is levied.

3.3.2.2 The following packets are chargeable[1)]:

- data packet;
- interrupt packet;
- call request/call incoming packet;
- reset request/reset indication packet, provided the cause of call reset is either DTE originated, local procedure error or remote procedure error;
- clear request (when the fast select facility is signalled in the call request packet without restrictions).

1) Further study for the completion of the list of chargeable calls and chargeable packets for international services may be required.

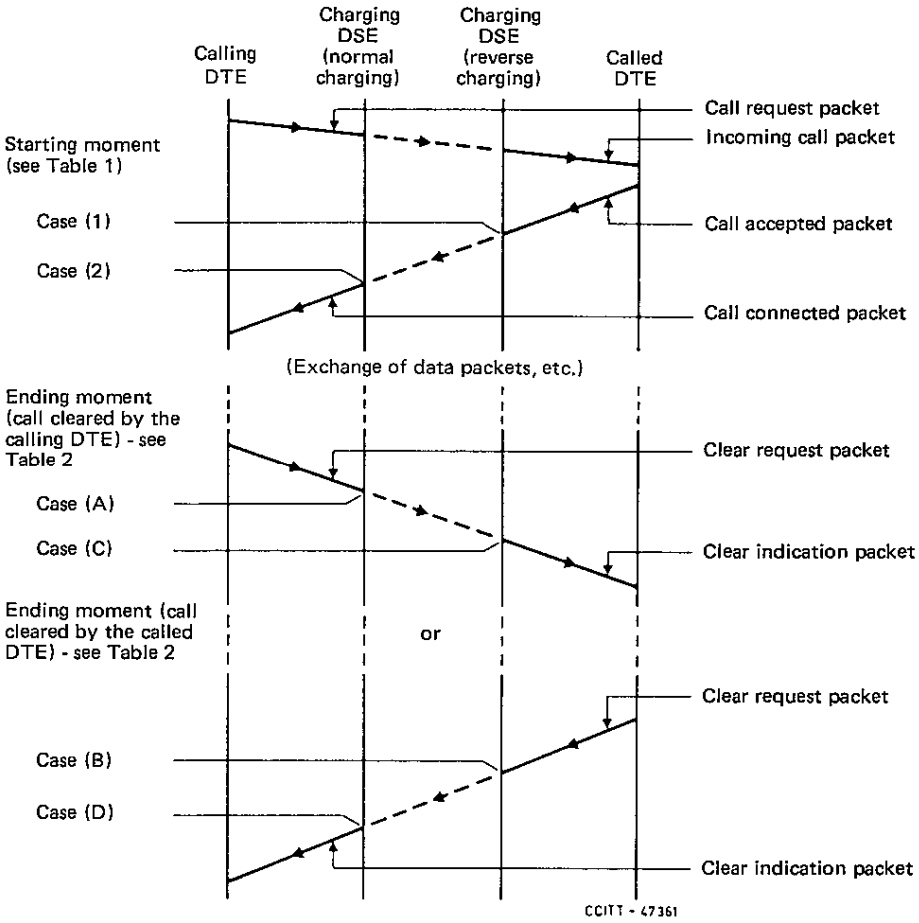

TABLE 1

Starting moment

Charging facility	Normal charging	Reverse charging
	Case (2)	Case (1)

TABLE 2

Ending moment

Charging facility	Normal charging	Reverse charging
The call is cleared by the calling DTE	Case (A)	Case (C)
The call is cleared by the called DTE	Case (D)	Case (B)

FIGURE 1/D.11

Diagrams illustrating the starting and ending moments of the chargeable duration

3.3.3 The chargeable duration of a communication should be calculated on the basis of the information below.

3.3.3.1 The duration of communication (see the diagram in Figure 1/D.11) should be measured and expressed in terms of a unit being equal to one minute.

3.3.3.2 The duration of the communication should be the interval between:

– the moment when the call-connected packet or the call-accepted packet is sent or received by the charging DSE[2)] where the recording of the duration takes place,

and

– the moment when the clear request packet or the clear indication packet is received or sent by the charging DSE.

3.3.3.3 If the duration of communication thus obtained contains a fraction of a minute, it should be rounded up to the next whole minute.

3.3.3.4 For a chargeable call as provided in § 2.1 ii) above, Administrations may apply a duration charge equal to one unit in addition to the charge in accordance with § 3.3.2.1.

2) The charging Administration should, in principle, obtain the information required for charging purposes. Therefore, in the case of a call using the reverse charging facility, it is the called Administration which is responsible for obtaining charging information.

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