INTERNATIONAL TELECOMMUNICATION UNION

CCITT D.176 (rev. 1)

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

GENERAL TARIFF PRINCIPLES

CHARGING AND ACCOUNTING IN INTERNATIONAL TELECOMMUNICATIONS SERVICES

TRANSMISSION IN ENCODED FORM OF TELEPHONE REVERSED CHARGE BILLING AND ACCOUNTING INFORMATION

Recommendation D.176 (rev. 1)

Geneva, 1992

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 D.176 was prepared by Study Group III and was approved under the Resolution No. 2 procedure on the 16th of June 1992.

CCITT NOTE

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 D.176

TRANSMISSION IN ENCODED FORM OF TELEPHONE REVERSED CHARGE[1] BILLING AND ACCOUNTING INFORMATION

(Geneva, 1976, revised 1992)

1 Introduction

1.1 Under the provisions of Recommendation D.174 where the chargeable duration of a reversed charge telephone call is determined in the outgoing country, the details of the call should be transmitted promptly to the distant Administration to enable it to perform customer billing and in certain circumstances (see Recommendation D.170, § 4.3) initiate international accounting.

1.2 A growing number of Administrations are processing telephone call data using computer based accounting systems. Information is drawn from traffic history tapes or from manually encoded data such as telephone tickets. It is usual, at present, to convert computer output from this processing to conventional printed accounts for dispatch to other Administrations. Where the receiving Administration also uses computer facilities, however, this information has to be re-encoded for further processing.

1.3 Transmission of data in encoded form avoids the decoding/reencoding step. It also offers a faster transfer of information than by printed forms through the mail. The latter remains true even if the forwarding Administration has prepared the data by manual/mechanical means.

2 Aim

2.1 The aim of this Recommendation is:

2.1.1 to enable Administrations using computer based accounting systems to transfer information to each other in encoded form, without the need for decoding into conventional printed form and subsequent encoding into machine-readable form;

2.1.2 to enable other Administrations, if they so desire, to benefit from the greater efficiency of speedier transfer of information to them and to prepare themselves for the introduction of computer working by introducing transmission of data in encoded form in advance of installation of a computer;

2.1.3 to facilitate provision of printed output from computer based systems in a format suitable for manual/mechanical processing where it is to be forwarded to Administrations not using computer facilities;

2.1.4 to facilitate provision of printed output from manual/mechanical accounting systems in a format suitable for data encoding where it is to be forwarded to Administrations employing computer processing.

3 Method

3.1 *Data record*

3.1.1 The aim of this Recommendation can be met by use of a standard data record format for the various elements of information to be transferred. The information elements and their sequence must be compatible with the provisions of Recommendation D.174, so that decoding to and encoding from printed output for exchange of information with Administrations using manual/mechanical systems will be as simple as possible.

3.1.2 Between Administrations operating computer based accounting systems, adherence to the standard data record format for data transmission purposes will ensure that only one interface programme will be needed to enable any one computer installation to generate suitable input for, and accept output from, other computer installations.

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[1] The term “reversed charge” is used to mean collect, credit card and third number paying calls.

3.2 *Data transfer*

3.2.1 Procedures already exist for transfer of data in conventional (printed) form through the mails. Data in encoded form could be transferred by mailing of magnetic or paper tapes, paper tape transmission by telex or data transmission over circuits utilized for this purpose.

3.2.2 While mailing of tapes avoids the encoding task for the receiving Administration there can be delays and loss in transit. In addition, there can be difficulties caused by the fragility of paper tape and incompatibility of various forms of magnetic tape recording.

3.2.3 Transfer of data via the telex service using paper tape transmission and reception can be advantageous for Administrations whether they have computer based accounting systems or manual/mechanical systems. As both page copy and punched paper tape can be generated at the receiving point users of either type of accounting system can benefit. Page copy can be used for checking paper tape with the latter becoming input to a computer. Page copy can also be used as the source of information for preparation of customer billing in a manual/mechanical system.

3.2.4 Where large volumes of data are to be exchanged transmission over higher speed circuits offers significant benefits. Where suitable data links are in use for service transmission, these could be utilized. Data terminals and modems capable of transmission speeds in the range 600 to 2400 bits per second should be sufficient but higher speeds could be used. For manual/mechanical systems, data received on data terminals can be reproduced as page copy for the production of customer billing. For computer based accounting systems, data transmission offers the possibility of complete automation of the process by computer-to-computer transfer.

4 Specific recommendations

4.1 It is recommended that:

4.1.1 Where possible, data transferred in printed form should be placed in the order shown in § A.2.

4.1.2 For transfer of data in encoded form the standard data record format detailed in the Annex A should be followed.

4.1.3 Transmission of data in encoded form be by the following means:

a) use of the telex system;

b) use of data transmission over telephone circuits, dedicated telegraph circuits or special data links.

4.1.4 Transmission speeds, operating practices and technical standards should be agreed between the Administrations concerned and should conform with the appropriate CCITT Recommendations.

5 Code maintenance

The Secretariat of the CCITT is responsible for maintenance of the record of codes used for Items 1, 2, 6 and 7 of the Detail record shown in Annex A.

New codes can be allocated by the authority of the Director of the CCITT. Applications should be made through the CCITT Secretariat who will arrange for the notification of new codes in the *Operational Bulletin*.

ANNEX A

(to Recommendation D.176)

Telephone reversed charge billing information
Fixed record formats

A.1 *Batch header*

Item number	Contents	Field size	Justification	Fill	Comments
1	Record type identification number	3	–	–	Always HDR
2	Batch sequence number	3	Right	Zero	For a specific combination of two Administrations. Reset to 1 after 999
3	Service type	2	Right	Zero	01 for telephone reverse charge data 02 for unbillable return records 03 for uncollectable return records
4	Administration sending data	7	Left	Space	Code as agreed bilaterally between the sending and receiving Administrations. (For Issuer identification number, see Recommendation E.118)
5	Creation date	6	–	–	Year, month and day on which data tape was created YYMMDD (January = 01)
6	Administration receiving data	7	Left	Space	As for item 4
7	Recommendation D.176 version	2	–	–	To signify which CCITT Recommendation D.176 version: 01 for version 1 (1992) 02 for revision 2, etc.
8	Filler	50	–	–	Space fill to give fixed size records

A.2 *Detail Record*

Item number	Contents	Field size	Justification	Fill	Comments
1	Record sequence	5	Right	Zero	Number all messages in numerical sequence 00001 through 99999
2	Reversed charge type code	2	Right	Zero	1. Collect 2. Operator assisted credit card service 3. Third party paying 4. Collect pay phone 5. International Freephone service 6. Automated credit card service[a)] 7. Foreign rated operator assisted credit card[h)] 8. Foreign rated automatic credit card[h)]
3	Service date	4	–	–	Month and day where call originated MMDD (January = 01)
4	Calling party number	11	Left	Space	National (significant) number (Recommendation E.164)
5	Called party number	11	Left	Space	National (significant) number (Recommendation E.164)
6	Rate level 1	1	–	–	1. Personal rate 2. Station rate
7	Rate level 2	1	–	–	1. Full rate 2. Reduced rate A[b)] 3. Reduced rate B[b)]
8	Charged duration				
8.1	Charged duration (minutes)	3	Right	Zero	Time to be paid for
8.2	Charged duration (seconds)	2	Right	Zero	Time for determining charge and/or establishing settlement accounts Individual calls of over 999 minutes to be handled manually
9	Connect time	4	–	–	Time call connected in the place of origin 0000 through 2359
10	Charged number/credit card	19	Left	Space	Where a credit card number is to be recorded in this field, then the entire credit card number should be entered including any industry identifier (see Recommendation E.118)

A.2 *Detail Record* (cont.)

Item number	Contents	Field size	Justification	Fill	Comments
11	Called country	3	Left	Space	Indicate the country code of the called country[c)]
12	Charged amount	7	Right	Zero	2 decimal places always preset[d)e)f)g)] The third decimal place shall be rounded up for 5 and above and down for 4 and below
13	Card validated	1	–	–	1 = negative validation 2 = positive validation 3 = no validation
14	Sub-account number	2	Right	Zero	
15	Additional charges	1	–	–	Additional charges to be collected: ADC (advice of duration of call) Space fill to indicate no additional charge
16	Route	6	Left	Space	If primary route has been used, record no data against this item (space fill still required To indicate a route other than the primary, use the appropriate country code: – include the 3rd digit for country code 21 – include numbering plan area (NPA) code (and NPX code, if necessary) for world numbering zone 1

a) See Recommendation D.120 on collection charges applied to automated credit cards.

b) For telephony only.

c) For the countries within world zone 1, no entry is necessary, as the terminating location can be determined by the digits contained within the called number.

d) To allow the originating Administration to determine the charges for calls where it, rather than the receiving Administration, determines the charges.

e) The currency of the charged amount will be expressed in SDRs or in gold francs. The billing Administration will also convert the charged amount tinto local currency for customer billing purposes.

f) Includes all amounts the originating Administration expects to receive, including but not limited to service charges, surcharges, taxes, etc.

g) Consistent with its national policies, the billing Administration may levy additional charges and/or taxes that may apply, if any, for this type of service.

h) Any call made in another country to any destination other than to the card-issuing country (see Recommendation E.118).

A.3 *Batch trailer*

Item number	Contents	Field size	Justification	Fill	Comments
1	Record type identification	3	–	–	Always TRL
2 to 6	(As for Batch header)	25	–	–	
7	Number of detail records in batch	6	Right	Zero	
8	Charged duration				
8.1	Charged duration (minutes)	8	Right	Zero	Total of all charged minutes in detail record, item No. 8.1
8.2	Charged duration (seconds)	7	Right	Zero	Total of all charged records in detail record, item No. 8.2
9	Charged amount	12	Right	Zero	Total of all charged amounts in detail record, item No. 12
10	Filter	19	–	–	Space fill to give fixed size records

Note 1 – New codes can be obtained from the Director of the CCITT. (Refer to § 5 of this Recommendation.)

Note 2 – Items not used should be "space" or "zero" filled as appropriate.

Note 3 – In telex transmissions, records may be followed by "new line" function characters. Records may also be terminated at the end of significant data by "new line" function characters and the remainder of the record will then be interpreted by the Administration receiving the data as "space" or "zero" fill as appropriate.