INTERNATIONAL TELECOMMUNICATION UNION

ITU-T Q.604

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

(03/93)

INTERWORKING OF SIGNALLING SYSTEMS

INTERWORKING OF SIGNALLING SYSTEMS – INFORMATION ANALYSIS TABLES

ITU-T Recommendation Q.604

(Previously "CCITT Recommendation")

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T 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 World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation Q.604 was revised by the ITU-T Study Group XI (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

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

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INTERWORKING OF SIGNALLING SYSTEMS – INFORMATION ANALYSIS TABLES

(Geneva, 1980; modified at Helsinki, 1993)

4 Information analysis tables are provided for each signalling system. These tables list the information elements of the forward and backward signals for CCITT signalling systems.

Tables A.4 to A.8[1)] show the forward signals relevant to interworking of Signalling Systems No. 4, No. 5, No. 6, No. 7 (TUP), R1 and R2, split up into their individual information elements. In these tables, comparisons are made between the contents of the signals used by the different systems.

Tables A.9 to A.13[1)] show the backward signals relevant to interworking of Signalling Systems No. 4, No. 5, No. 6, No. 7 (TUP), R1 and R2, split up into their individual information elements. In the rows headed "corresponds to signal No. . . . of Signalling System . . ." the signals are entered together with their corresponding signal, if any, in the different systems.

The tables include an indication to the other signalling systems where

- equivalent signals have the same information content;
- equivalent signals are not provided;
- equivalent signals contain less or substitute information;
- equivalent signals contain additional or changed information.

4.1 Information content of the signals

The individual signals are assigned specific information so as to enable messages to be transmitted. The meaning of these signals can be seen from the specifications of CCITT Signalling Systems.

With regard to their information content, a basic distinction can be made between

- signals containing a single information element; and
- signals containing several information elements.

An information element is understood to be the smallest indivisible component of information (within a signal) considered in this Recommendation.

For the interworking of different signalling systems, the information content of the signals to be translated is of great importance. In the case where two signalling systems interwork, it is possible to assign all signals used in the CCITT Signalling Systems to one of the following categories:

a) signals coinciding in all information elements;

b) signals coinciding at least in one, but not in all information elements;

c) signals coinciding in no information element at all.

4.2 Consequences

If signals with identical information content are present in the signalling systems, the interworking condition is fulfilled. No modification of information occurs [refer to a) of 4.1 above].

If the signal meanings do not agree in all information elements, those signals must be allocated to one another where maximum agreement is to be achieved, so as to minimize the loss or addition of information [refer to b) of 4.1 above].

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1) See Annex A to Recommandations Q.601-Q.608.

If a signal possesses information elements which are not present in the signals of the other signalling system with which interworking should take place, the information concerned cannot be transmitted and the appropriate performance feature cannot be utilized [refer to c) of 4.1 above].

In a few cases special procedures have to be laid down if the status of the connection does not permit transmission of the intended interworking signal. If conversion is not possible with certain backward signals, it may be necessary to apply a corresponding tone (see Recommendation Q.35).

In addition, there are cases in which the information content of several signals of one of the signalling systems has to be converted so as to obtain one signal of the other signalling system and vice versa.