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ITU-T

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OF ITU

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**INTEGRATED SERVICES DIGITAL
NETWORK (ISDN)**

OVERALL NETWORK ASPECTS AND FUNCTIONS

**REFERENCE CONFIGURATIONS FOR ISDN
CONNECTION TYPES**

ITU-T Recommendation I.325

(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 I.325 was revised by the ITU-T Study Group XVIII (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 Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.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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Recommendation I.325

REFERENCE CONFIGURATIONS FOR ISDN CONNECTION TYPES

(Melbourne, 1988; amended at Helsinki, 1993)

1 Summary

In order to apply the network performance parameters to the ISDN, some form of hypothetical reference connections (HRXs) are necessary. These HRXs should be based on appropriate reference configurations for the connection types to which the network performance parameters refer. This Recommendation shows how reference configurations can be developed for the ISDN connection types and what form such reference configurations should take.

2 Introduction

2.1 Objective

The general architectural model of the ISDN (see Figure 1) is given in Recommendation I.324. The detailed network capabilities of the ISDN, as described by connection types in Recommendation I.340, are described topologically by this Recommendation giving reference configurations as appropriate for (an) ISDN connection type(s). These reference configurations do not give details on the number of switching nodes, length of connection, transmission facilities used, etc. However, they do give the details on the reference configuration (or topological configuration) of all matters described by the connection type to which they refer. Therefore they should include details on the signalling, existence of switching functions, channels, etc. Based on these reference configurations, appropriate HRXs should be developed which will be particular to network performance parameters or groups of network performance (NP) parameters. The details on these HRXs will be appropriate for the NP parameters in question.

In order to keep the task of developing reference configurations and the subsequent HRXs, and the allocation of performance values to these HRXs, to manageable proportions, it is necessary to have as limited a set as possible of specific reference configurations. Consequently the ISDN connection types in Recommendation I.340 need to be arranged in different classes which differ significantly from each other such that they require a separate reference configuration model.

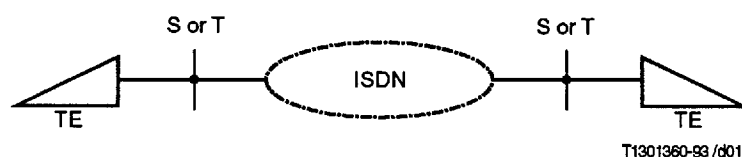


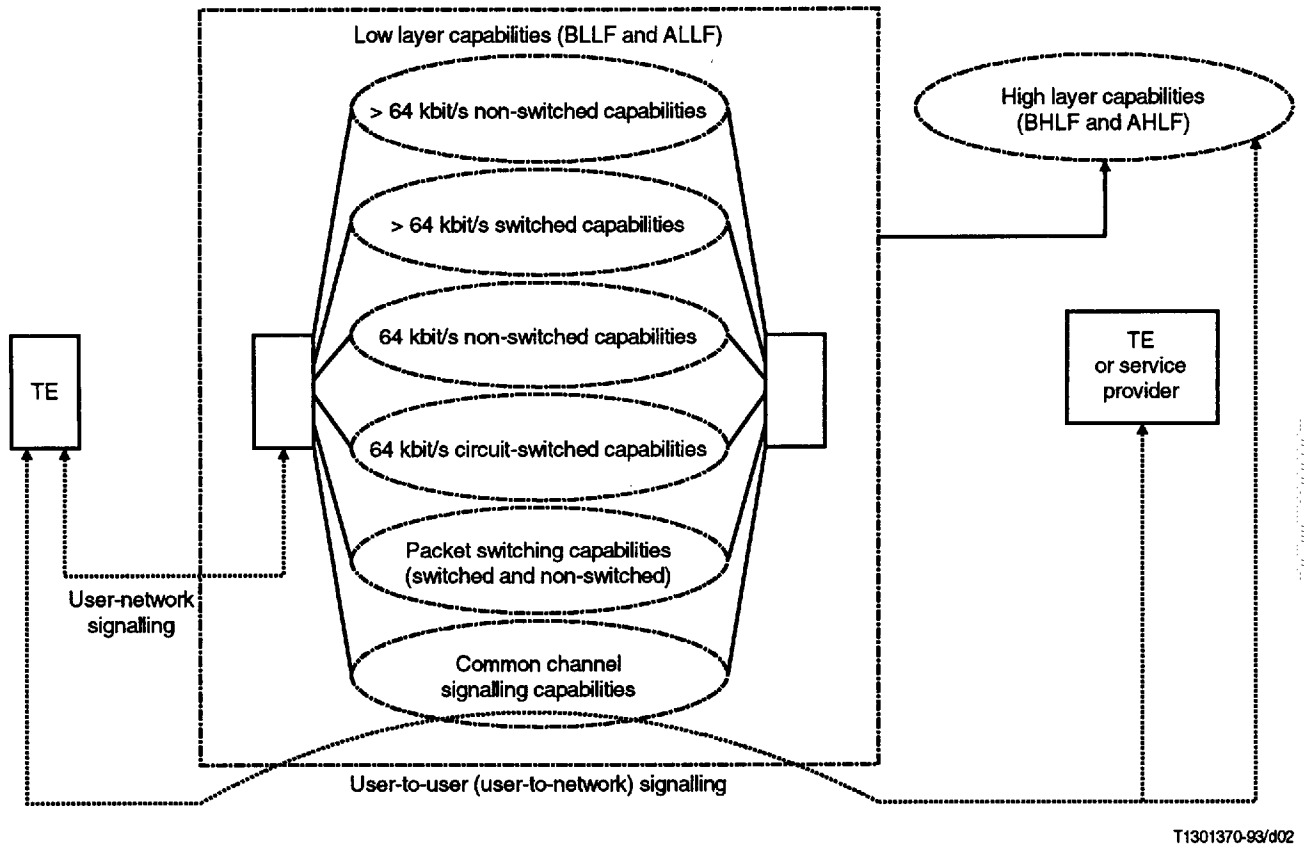
FIGURE 1/I.325
Simple cloud model of the ISDN

2.2 Relationship to other I-Series Recommendations

The concept of reference configurations has already been used in a number of areas of standardization of the ISDN. It is therefore necessary to consider the concept of connection type reference configurations in the context of these developments.

2.2.1 ISDN architectural model

It should be noted that defining a set of reference configurations presupposes a particular architectural model of an ISDN (see Figure 2). The architectural model for the ISDN is contained in Recommendation I.324. In addition, Recommendation I.310 on the ISDN network functional principles, when considered together with Recommendation I.324, gives the general basis of the architecture of the ISDN from which it is possible to develop reference configurations for ISDN connection types.



BLLF Basic low layer functions
 ALLF Additional low layer functions
 BHLF Basic high layer functions
 AHLF Additional high layer functions

FIGURE 2/I.325
 Basic architectural model of an ISDN

2.2.2 ISDN user-network interfaces

The concept of reference configurations was first used in the ISDN work to describe the topological association of functional groupings at the user-to-network interface points. Recommendation I.411 (ISDN user-network interfaces – Reference configurations) is the complete description of these particular reference configurations. The key factors in the definition of reference configurations in Recommendation I.411 are the concepts of functional groupings and reference points.

2.2.3 Recommendations X.30 and X.31 (I.461 and I.462)

Recommendations X.30 and X.31 on the adaption of X.21 and X.25 based DTEs to the ISDN also use the concept of reference configurations to explain the topological configuration of functional groupings involved in these kinds of terminals accessing the ISDN.