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SERIES I: INTEGRATED SERVICES DIGITAL
NETWORK (ISDN)

General structure – Description of ISDNs

INTEGRATED SERVICES DIGITAL NETWORKS (ISDNs)

NOTES

1   CCITT Recommendation I.120 was published in Fascicle III.7 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.

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Recommendation I.120

INTEGRATED SERVICES DIGITAL NETWORKS (ISDNs)

(Malaga-Torremolinos, 1984)

1   Principles of ISDN

1.1   The main feature of the ISDN concept is the support of a wide range of voice and non-voice applications in the same network. A key element of service integration for an ISDN is the provision of a range of services (see Part II of the I-Series in this Fascicle) using a limited set of connection types and multipurpose user-network interface arrangements (see Parts III and IV of the I-Series in Fascicle III.8).

1.2   ISDNs support a variety of applications including both switched and non-switched connections. Switched connections in an ISDN include both circuit-switched and packet-switched connections and their concatenations.

1.3   As far as practicable, new services introduced into an ISDN should be arranged to be compatible with 64 kbit/s switched digital connections.

1.4   An ISDN will contain intelligence for the purpose of providing service features, maintenance and network management functions. This intelligence may not be sufficient for some new services and may have to be supplemented by either additional intelligence within the network, or possibly compatible intelligence in the user terminals.

1.5   A layered protocol structure should be used for the specification of the access to an ISDN. Access from a user to ISDN resources may vary depending upon the service required and upon the status of implementation of national ISDNs.

1.6   It is recognized that ISDNs may be implemented in a variety of configurations according to specific national situations.

2   Evolution of ISDNs

2.1   ISDNs will be based on the concepts developed for telephone IDNs and may evolve by progressively incorporating additional functions and network features including those of any other dedicated networks such as circuit-switching and packet-switching for data so as to provide for existing and new services.

2.2   The transition from an existing network to a comprehensive ISDN may require a period of time extending over one or more decades. During this period arrangements must be developed for the interworking of services on ISDNs and services on other networks (see Part V).

2.3   In the evolution towards an ISDN, digital end-to-end connectivity will be obtained via plant and equipment used in existing networks, such as digital transmission, time-division multiplex switching and/or space-division multiplex switching. Existing relevant Recommendations for these constituent elements of an ISDN are contained in the appropriate series of Recommendations of CCITT and of CCIR.

2.4   In the early stages of the evolution of ISDNs, some interim user-network arrangements may need to be adopted in certain countries to facilitate early penetration of digital service capabilities. Arrangements corresponding to national variants may comply partly or wholly with I-Series Recommendations. However, the intention is that they not be specifically included in the I-Series.

2.5   An evolving ISDN may also include at later stages switched connections at bit rates higher and lower than 64 kbit/s.

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