INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

I.112
(11/1988)

SERIES I: INTEGRATED SERVICES DIGITAL
NETWORK

General structure – Frame of I-Series Recommendations

VOCABULARY OF TERMS FOR ISDNs

Reedition of CCITT Recommendation I.112 published in
the Blue Book, Fascicle III.7 (1988)

NOTES

1   CCITT Recommendation I.112 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.

Recommendation I.112

VOCABULARY OF TERMS FOR ISDNs

(Malaga-Torremolinos, 1984; amended at Melbourne, 1988)

1   Introduction

This Recommendation consists primarily of those terms and definitions that are considered essential to the understanding and application of the principles of an Integrated Services Digital Network (ISDN). They are not exclusive to ISDNs and are also recommended for application, insofar as they are relevant, to other types of telecommunication networks.

Included are some terms that are already defined in other Recommendations. However, the definitions given here embrace only the essential concepts and on that basis it is considered that they are not inconsistent with the more specialized definitions that appear in those other Recommendations.

A small number of the terms and definitions in this Recommendation are duplicated in Recommendation G.701. References to these definitions are given in brackets, for example {1001}, as an aid to ensuring consistency between the two Recommendations in the event of future amendments.

According to the conventions applied in this Recommendation, any term in common usage but whose use is deprecated in the sense defined, is shown as in the following example: "419 functional group [functional grouping]".

Where a truncated term is widely used in an understood context the complete term is quoted following the colloquial form, for example, "111 circuit, telecommunication circuit".

Annex A to this Recommendation contains an alphabetical list of all of the terms contained in this Recommendation.

CONTENTS

2   Vocabulary of terms

2.1   *General*

101   **communication**

F: *communication*

S: *comunicación*

The transfer of information according to agreed conventions.

Note – In French and Spanish the corresponding terms "communications" and "comunicación" have additional specific meanings in telecommunication.

102   **signal** {1001}

F: *signal*

S: *señal*

A physical phenomenon one or more of whose characteristics may vary to represent information.

103   **analogue signal** {1002}

   F: signal analogique

   S: señal analógica

   A signal one of whose characteristic quantities follows continuously the variations of another physical quantity representing information.

104   **discretely-timed signal** {1003}

   F: signal (temporel) discret

   S: señal discretamente temporizada

   A signal composed of successive elements in time, each element having one or more characteristics which can convey information, for example, its duration, its waveform and its amplitude.

105   **digital signal** {2006}

   F: signal numérique

   S: señal digital

   A discretely-timed signal in which information is represented by a number of well-defined discrete values that one of its characteristic quantities may take in time.

   Note – The term may be qualified to indicate the digit rate, for example: "140 Mbit/s digital signal".

106   **transmission** {1004}

   F: transmission

   S: transmisión

   The action of conveying signals from one point to one or more other points.

   Note 1 – Transmission can be effected directly or indirectly, with or without intermediate storage.

   Note 2 – The use of the English word "transmission" in the sense of "emission" is deprecated.

107   **digital transmission** {3001}

   F: transmission numérique

   S: transmisión digital

   The transmission of digital signals by means of a channel or channels that may assume in time any one of a defined set of discrete states.

108   **channel, transmission channel** {1005}

   F: voie, voie de transmission

   S: canal, canal de transmisión

   A means of unidirectional transmission of signals between two points.

   Note 1 – Several channels may share a common path; for example each channel may be allocated a particular frequency band or a particular time slot.

   Note 2 – The term may be qualified by the nature of the transmitted signals, by the bandwidth, by the digit rate, or by an arbitrary designation.

   Note 3 – See also Term 414, access channel.

109   **digital channel, digital transmission channel** {3002}

   F: voie numérique, voie de transmission numérique

   S: canal digital, canal de transmisión digital

   The means of unidirectional digital transmission of digital signals between two points.

110   **telecommunication** {1006}

    F: télécommunication

    S: telecomunicación

Any transmission and/or emission and reception of signals representing signs, writing, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems.

111   **circuit, telecommunication circuit** {1007}

    F: circuit, circuit de télécommunications

    S: circuito, circuito de telecomunicación

A combination of two transmission channels permitting bi-directional transmission of signals between two points, to support a single communication.

Note 1 – If the telecommunication is by nature unidirectional (for example: long distance television transmission), the term "circuit" is sometimes used to designate the single channel providing the facility.

Note 2 – In a telecommunication network use of the term "circuit" is generally limited to a telecommunication circuit directly connecting two switching devices or exchanges, together with associated terminating equipment.

Note 3 – A telecommunication circuit may permit transmission in both directions simultaneously (duplex) or not simultaneously (simplex).

Note 4 – A telecommunication circuit that is used for transmission in one direction only is sometimes referred to as a unidirectional telecommunication circuit. A telecommunication circuit that is used for transmission in both directions (whether simultaneously or not) is sometimes referred to as a bidirectional telecommunication circuit.

112   **digital circuit, digital telecommunication circuit** {3003}

    F: circuit numérique, circuit numérique de télécommunications

    S: circuito digital, circuito de telecomunicación digital

A combination of two digital transmission channels permitting bidirectional digital transmission between two points, to support a single communication.

Note 1 – If the telecommunication is by nature unidirectional (for example: long distance television transmission), the term "digital circuit" is sometimes used to designate the single digital channel providing the facility.

Note 2 – In a telecommunication network, use of the term "digital circuit" is generally limited to a digital telecommunication circuit directly connecting two switching devices or exchanges, together with associated terminating equipment.

Note 3 – A digital telecommunication circuit may permit transmission in both directions simultaneously (duplex), or not simultaneously (simplex).

Note 4 – A digital telecommunication circuit that is used for transmission in one direction only is sometimes referred to as a unidirectional digital telecommunication circuit. A digital telecommunication circuit that is used for transmission in both directions (whether simultaneously or not) is sometimes referred to as a bidirectional digital telecommunication circuit.

113   **switching**

    F: commutation

    S: conmutación

The process of interconnecting functional units, transmission channels or telecommunication circuits for as long as is required to convey signals.

114   **digital switching**

   F: commutation numérique

   S: conmutación digital

Switching by means that may assume in time any one of a defined set of discrete signal states, in order to convey digital signals.

115   **exchange**

   F: commutateur [central]

   S: central

An aggregate of traffic carrying devices, switching stages, controlling and signalling means, and other functional units at a network node that enables subscriber lines, telecommunication circuits and/or other functional units to be interconnected as required by individual users.

116   **digital exchange**

   F: commutateur numérique

   S: central digital

An exchange that switches digital signals by means of digital switching.

117   **integrated digital transmission and switching**

   F: transmission et commutation numériques intégrées

   S: transmisión y conmutación digitales integradas

The direct (digital) concatenation of digital transmission and digital switching, that maintains a continuous digital transmission path.

2.2   *Services*

201   **service, telecommunication service**

   F: service, service de télécommunications

   S: servicio, servicio de telecomunicación

That which is offered by an Administation or RPOA to its customers in order to satisfy a specific telecommunication requirement.

   Note – Bearer service and teleservice are types of telecommunication service. Other types of telecommunication service may be identified in the future.

202   **bearer service**

   F: service support

   S: servicio portador

A type of telecommunication service that provides the capability for the transmission of signals between user-network interfaces.

   Note – The ISDN connection type used to support a bearer service may be identical to that used to support other types of telecommunication service.

203   **teleservice [telecommunication service]**

   F: téléservice

   S: teleservicio, servicio final

A type of telecommunication service that provides the complete capability, including terminal equipment functions, for communication between users according to protocols established by agreement between Administrations and/or RPOAs.

204   **teleaction service [telemetry service]**

　　F: service de téléaction [service de télémesure]

　　S: servicio de teleacción

A type of telecommunication service that uses short messages, requiring a very low transmission rate, between the user and the network.

　　Note – Examples of teleaction services are: telealarm, telecommand, telealerting.

205   **demand service, demand telecommunication service**

　　F: service à la demande, service de télécommunications à la demande

　　S: servicio por demanda, servicio de telecomunicación por demanda

A type of telecommunication service in which the communication path is established almost immediately, in response to a user request effected by means of user-network signalling.

206   **reserved circuit service, reserved circuit telecommunication service**

　　F: service de circuit réservé, service de circuit de télécommunications réservé

　　S: servicio de circuito reservado, servicio de telecomunicación de circuito reservado

A type of telecommunication service in which the communication path is established at a time specified in advance by the user, in response to a user request effected by means of user-network signalling.

　　Note – The duration of the communication, or the time of release of the communication path, may also be specified in advance by the user.

207   **permanent circuit service, permanent circuit telecommunication service**

　　F: service de circuit permanent, service de circuit de télécommunications permanent

　　S: servicio de circuito permanente, servicio de telecomunicación de circuito permanente

A type of telecommunication service in which the communication path is established in response to a customer request effected by means of an operational or administrative message.

　　Note – Release of the communication path is effected in a similar way to its establishment.

208   **service attribute, telecommunication service attribute**

　　F: attribut de service, attribut de service de télécommunications

　　S: atributo de servicio, atributo de servicio de telecomunicación

A specified characteristic of a telecommunication service.

　　Note – The value(s) assigned to one or more service attributes may be used to distinguish that telecommunication service from others.

2.3   *Networks*

301   **link, transmission link**

　　F: liaison, liaison de transmission

　　S: enlace, enlace de transmisión

A means of transmission with specified characteristics between two points.

　　Note – The type of the transmission path or the capacity is normally indicated, e.g. radio link, coaxial link, or 2048 kbit/s link.

302   **digital link, digital transmission link** {3005}

　　F: liaison numérique, liaison de transmission numérique

　　S: enlace digital, enlace de transmisión digital

The whole of the means of digital transmission of a digital signal of specified rate between two digital distribution frames (or equivalent).

Note 1 – A digital link comprises one or more digital sections and may include multiplexing and/or demultiplexing, but not switching.

Note 2 – The term may be qualified to indicate the transmission medium used, for example: "digital satellite link".

Note 3 – The term always applies to the combination of "go" and "return" directions of transmission, unless stated otherwise.

Note 4 – The term "digital path" is sometimes used to describe one or more digital links connected in tandem, especially between equipments at which the signals of the specified rate originate and terminate.

303   node, switching node

F: nœud, nœud de commutation

S: nodo, nodo de conmutación

A point at which switching occurs.

Note – The term "node" is sometimes used to refer to a point at which circuits are interconnected by means other than switching. In such a case a suitable qualification should be used, for example: "synchronization node".

304   digital switching node

F: nœud de commutation numérique

S: nodo de conmutación digital

A node at which digital switching occurs.

305   network, telecommunication network

F: réseau, réseau de télécommunications

S: red, red de telecomunicación

A set of nodes and links that provides connections between two or more defined points to facilitate telecommunication between them.

306   digital network, integrated digital network

F: réseau numérique, réseau numérique intégré

S: red digital, red digital integrada

A set of digital nodes and digital links that uses integrated transmission and switching to provide digital connections between two or more defined points to facilitate telecommunication between them.

307   integrated services network

F: réseau avec intégration des services

S: red de servicios integrados

A network that provides or supports a range of different telecommunication services.

308   integrated services digital network (ISDN)

F: réseau numérique avec intégration des services (RNIS)

S: red digital de servicios integrados (RDSI)

An integrated services network that provides digital connections between user-network interfaces.

309   connection

F: connexion, chaîne de connexion

S: conexión

A concatenation of transmission channels or telecommunication circuits, switching and other functional units set up to provide for the transfer of signals between two or more points in a telecommunication network, to support a single communication.

310 **digital connection** {3004}

  F: connexion numérique

  S: conexión digital

  A concatenation of digital transmission channels or digital telecommunication circuits, switching and other functional units set up to provide for the transfer of digital signals between two or more points in a telecommunication network, to support a single communication.

311 **switched connection**

  F: connexion commutée

  S: conexión conmutada

  A connection that is established by means of switching.

  Note – A switched connection may be used to support both demand and reserved circuit services.

312 **non-switched connection**

  F: connexion non commutée

  S: conexión no conmutada

  A connection that is established without the use of switching, for example by means of hard-wired joints.

313 **exchange connection**

  F: connexion de commutateur

  S: conexión de central

  A connection that is established through an exchange, between the terminations on that exchange, of two or more channels or circuits.

314 **ISDN connection**

  F: connexion RNIS

  S: conexión de RDSI

  A connection that is established through an ISDN between specified ISDN interfaces.

315 **connection attribute, ISDN connection attribute**

  F: attribut de connexion, attribut de connexion RNIS

  S: atributo de conexión, atributo de conexión de RDSI

  A specified characteristic of an ISDN connection.

  Note – The value(s) assigned to one or more connection attributes may be used to distinguish that connection from others.

316 **connection type, ISDN connection type**

  F: type de connexion, type de connexion RNIS

  S: tipo de conexión, tipo de conexión de RDSI

  A description of a set of ISDN connections that consists of stated values of one or more ISDN connection attributes.

317 **connection element, ISDN connection element**

  F: élément de connexion, élément de connexion RNIS

  S: elemento de conexión, elemento de conexión de RDSI

  A part of an ISDN connection which has stated values of one or more ISDN connection attributes.

318 **switched connection element, switched ISDN connection element**

  F: élément de connexion commutée, élément de connexion RNIS commutée

  S: elemento de conexión conmutada, elemento de conexión conmutada de RDSI

An ISDN connection element that is established by means of switching.

319   non-switched connection element, non-switched ISDN connection element

F: élément de connexion non commutée, élément de connexion RNIS non commutée

S: elemento de conexión no conmutada, elemento de conexión no conmutada de RDSI

An ISDN connection element that is established without switching.

320   point-to-point ISDN connection

F: connexion RNIS point-à-point

S: conexión de RDSI punto a punto

An ISDN connection that is established between two specified ISDN interfaces.

321   point-to-multipoint ISDN connection

F: connexion RNIS point-multipoints

S: conexión de RDSI punto a multipunto

An ISDN connection that is established between a single specified ISDN interface, and more than one other specified ISDN interface.

2.4   *Access*

401   user, user of a telecommunication network

F: usager, usager d'un réseau de télécommunications

F: usuario, usuario de una red de telecomunicación

A person or machine delegated by a customer to use the services and/or facilities of a telecommunication network.

402   user access, user-network access

F: accès d'usager, accès d'usager-réseau

S: acceso de usuario, acceso usuario-red

The means by which a user is connected to a telecommunication network in order to use the services and/or facilities of that network.

403   function

F: fonction

S: función

A set of processes defined for the purpose of achieving a specified objective.

Note – Functions may be ordered in a logical hierarchy.

404   layer [level]

F: couche [niveau]

S: capa [nivel]

A conceptual region that embodies one or more functions between an upper and a lower logical boundary within a hierarchy of functions.

Note – The Open Systems Interconnection (OSI) reference model has seven layers.

405   protocol

F: protocole

S: protocolo

A formal statement of the procedures that are adopted to ensure communication between two or more functions within the same layer of a hierarchy of functions.

406 access protocol

F: *protocole d'accès*

S: *protocolo de acceso*

A defined set of procedures that is adopted at an interface at a specified reference point between a user and a network to enable the user to employ the services and/or facilities of that network.

407 user-user protocol

F: *protocole d'usager à usager*

S: *protocolo usuario-usuario*

A protocol that is adopted between two or more users in order to ensure communication between them.

408 interface {1008}

F: *interface*

S: *interfaz*

The common boundary between two associated systems.

409 user-network interface

F: *interface usager-réseau*

S: *interfaz usuario-red*

The interface between the terminal equipment and a network termination at which interface the access protocols apply.

410 layer interface

F: *interface de couche*

S: *interfaz de capa*

The interface between adjacent layers of hierarchy of layers.

411 physical interface

F: *interface physique*

S: *interfaz físico*

The interface between two equipments.

412 interface specification

F: *spécification d'interface*

S: *especificación de interfaz*

A formal statement of the type, quantity, form and order of the interconnections and interactions between two associated systems, at their interface.

413 physical interface specification [physical interface]

F: *spécification d'interface physique [interface physique]*

S: *especificación de interfaz físico [interfaz físico]*

A formal statement of the mechanical, electrical, electromagnetic and optical characteristics of the interconnections and interactions between two associated equipments, at their interface.

414 access channel [channel]

F: *canal d'accès [canal]*

S: *canal de acceso [canal]*

A designated part of the information transfer capability having specified characteristics, provided at the user-network interface:

Note 1 – The term "transmission channel" is well understood to imply unidirectional working only, and then is commonly abbreviated to "channel". In the special case where the term "access channel" is used to encompass bidirectional working through the user-network interface, it must not be abbreviated to channel.

Note 2 – The term "access channel" may be qualified, for example by H, B or D in which case it is appropriate to abbreviate the term to "H-channel", to "B-channel" or to "D-channel".

Note 3 – Unless otherwise qualified, the access channel characteristics at the user-network interface are assumed to be bidirectional symmetric. When such characteristics are unidirectional, the term "unidirectional access channel" should be used.

415 interface structure, ISDN user-network interface structure

F: structure d'interface, structure d'interface RNIS usager-réseau

S: estructura de interfaz, estructura de interfaz usuario-red de la RDSI

The number and type of the access channels that appear at an ISDN user-network interface.

416 access capability, ISDN access capability

F: capacité d'accès, capacité d'accès au RNIS

S: capacidad de acceso, capacidad de acceso de la RDSI

The number and type of the access channels at an ISDN access interface that are actually available for telecommunication purposes.

417 terminal equipment

F: équipement terminal (ET)

S: equipo terminal

Equipment that provides the functions necessary for the operation of the access protocols by the user.

418 network termination

F: terminaison de réseau

S: terminación de red

Equipment that provides the functions necessary for the operation of the access protocols by the network.

Note – The network termination provides essential functions for transmission purposes.

419 functional group [functional grouping]

F: groupe fonctionnel [groupement fonctionnel]

S: grupo funcional [agrupación funcional]

A set of functions that may be performed by a single equipment.

420 reference point

F: point de référence

S: punto de referencia

A conceptual point at the conjunction of two non-overlapping functional groups.

421 reference configuration

F: configuration de référence

S: configuración de referencia

A combination of functional groups and reference points that shows possible network arrangements.

422 multipoint access

F: accès multipoint

S: acceso multipunto

User access in which more than one terminal equipment is supported by a single network termination.

423 **access contention**

    F: conflit d'accès

    S: contienda de accesso

A conflict between the demands made on a network termination in multipoint access.

424 **access contention resolution**

    F: résolution des conflits d'accès

    S: resolución de contienda de acceso

The arbitration of conflicting demands on a network termination in multipoint access.

2.5   *Signalling*

501 **signalling**

    F: signalisation

    S: señalización

The exchange of information specifically concerned with the establishment and control of connections, and with management, in a telecommunication network.

502 **channel-associated signalling**

    F: signalisation voie par voie

    S: señalización asociada al canal

A method of signalling in which signalling information relating to the traffic carried by a single channel is transmitted in the channel itself or in a signalling channel permanently associated with it.

503 **common channel signalling**

    F: signalisation sur voie commune, signalisation par canal sémaphore

    S: señalización por canal común

A method of signalling in which signalling information relating to a multiplicity of circuits or functions or for network management, is conveyed over a single channel by addressed messages.

504 **in-slot signalling**

    F: signalisation dans le créneau temporel

    S: señalización dentro del intervalo

Signalling associated with a channel and transmitted in a digit time-slot permanently (or periodically) allocated in the channel time-slot.

505 **out-slot signalling**

    F: signalisation hors créneau temporel

    S: señalización fuera del intervalo

Signalling associated with a channel and transmitted in one or more separate digit time-slots not within the channel time-slot.

506 **speech digit signalling**

    F: signalisation par éléments numériques vocaux

    S: señalización por dígitos de conversación

A type of channel-associated signalling in which digit time-slots primarily used for the transmission of encoded speech are periodically used for signalling.

ANNEX A

(to Recommendation I.112)

Alphabetical list of terms contained in this Recommendation[1]

416	access capability	403	function
414	access channel	419	functional group
423	access contention	504	in-slot signalling
424	access contention resolution	306	integrated digital network
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108	channel	408	interface
502	channel-associated signalling	412	interface specification
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309	connection	315	ISDN connection attribute
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205	demand telecommunication service	410	layer interface
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112	digital circuit	422	multipoint access
310	digital connection	305	network
116	digital exchange	418	network termination
302	digital link	303	node
306	digital network	312	non-switched connection
105	digital signal	319	non-switched connection element
114	digital switching	319	non-switched ISDN connection element
304	digital switching node	505	out-slot signalling
112	digital telecommunication circuit	207	permanent circuit service
107	digital transmission	207	permanent circuit telecommunication service
109	digital transmission channel	411	physical interface
302	digital transmission link	413	physical interface specification
104	discretely-timed signal	321	point-to-multipoint ISDN connection
115	exchange	320	point-to-point ISDN connection
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[1] The number against a term indicates its location in the vocabulary.

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