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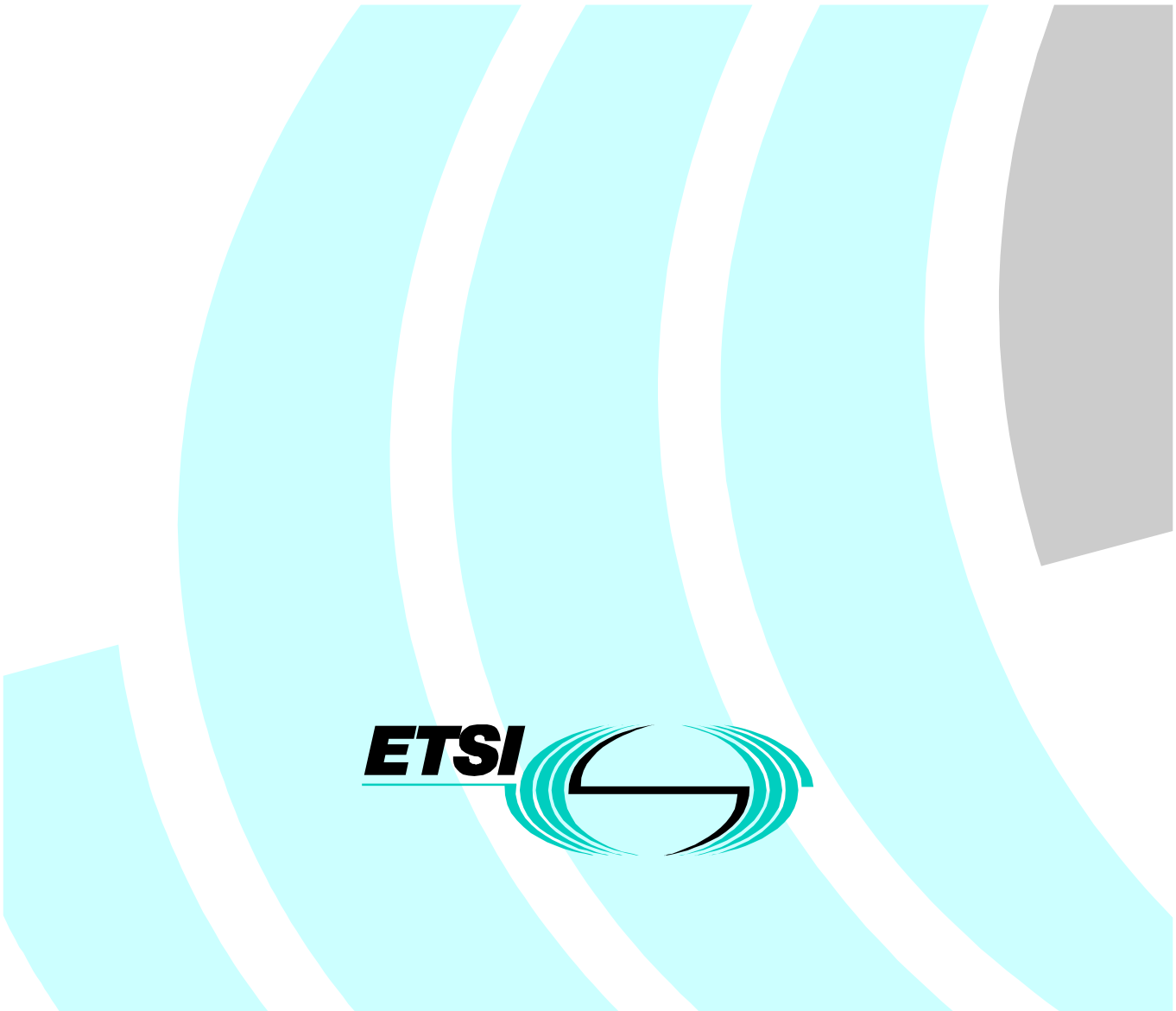
Technical Report

Services and Protocols for Advanced Networks (SPAN); Terms and definitions



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Contents

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Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

1 Scope

The present document lists the terms used in the ETSI Standards and Technical Reports covering network aspects in general. Included are terms already defined in other technical areas if they have a special meaning in a network aspects context or if an unambiguous definition is essential.

The terms are listed in alphabetical order only and are not sorted according to the technical area (services, powering, transfer mode, signalling, interfaces etc.) to which they belong.

The list of abbreviations and acronyms include acronyms defined in other contexts and used in network aspect documents.

2 References

For the purposes of this Technical Report (TR) the following references apply:

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[4] ITU-T Recommendation E.600 (1993): "Terms and definitions of traffic engineering".

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[6] ITU-T Recommendation G.601 (1980): "Terminology for cables".

[7] ITU-T Recommendation G.701 (1993): "Vocabulary of digital transmission and multiplexing, and pulse code modulation (PCM) terms".

[8] ITU-T Recommendation G.707 (2000): "Network node interface for the synchronous digital hierarchy (SDH)".

[9] ITU-T Recommendation G.803 (2000): "Architecture of transport networks based on the synchronous digital hierarchy (SDH)".

[10] ITU-T Recommendation G.805 (2000): "Generic functional architecture of transport networks".

[11] ITU-T Recommendation G.810 (1996): "Definitions and terminology for synchronization networks".

[12] ITU-T Recommendation G.823 (2000): "The control of jitter and wander within digital networks which are based on the 2048 kbit/s hierarchy".

[13] ITU-T Recommendation G.902 (1995): "Framework Recommendation on functional access networks (AN) Architecture and functions, access types, management and service node aspects".

[14] ITU-T Recommendation H.223 (1996): "Multiplexing protocol for low bit rate multimedia communication".

[15] ITU-T Recommendation H.323 (2000): "Packet-based multimedia communications systems".

[16] ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".

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[19] ITU-T Recommendation I.150 (1999): "B-ISDN asynchronous transfer mode functional characteristics".

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[24] ITU-T Recommendation I.374 (1993): "Framework Recommendation on "network capabilities to support multimedia services".

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[26] ITU-T Recommendation I.510 (1993): "Definitions and general principles for ISDN interworking".

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[29] ITU-T Recommendation M.60 (1993): "Maintenance terminology and definitions".

[30] ITU-T Recommendation M.3010 (2000): "Principles for a Telecommunications management network".

[31] ITU-T Recommendation Q.9 (1988): "Vocabulary of switching and signalling terms".

[32] ITU-T Recommendation Q.65 (1997): "The unified functional methodology for the characterisation of services and network capabilities".

[33] ITU-T Recommendation Q.825 (1998): "Specification of TMN applications at the Q3 interface: Call detail recording".

[34] ITU-T Recommendation Q.921 (1997): "ISDN user-network interface - Data link layer specification".

[35] ITU-T Recommendation Q.1290 (1998): "Glossary of terms used in the definition of intelligent networks".

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[46] ETSI ETR 149: "Network Aspects (NA); Interworking between Metropolitan Area Networks (MANs) and Asynchronous Transfer Mode (ATM) networks for the Connectionless Broadband Data Service (CBDS)".

[47] ETSI ETR 155: "Asynchronous Transfer Mode (ATM); Operation Administration and Maintenance (OAM) functions and parameters for assessing performance parameters".

[48] ETSI ETR 161: "Broadband Integrated Services Digital Network (B-ISDN); Functional description of Virtual Path (VP) cross-connect".

[49] ETSI TR 101 287 (V1.1.1): "Network Aspects (NA); Terms and definitions".

[50] ETSI TR 101 615: "Network Aspects (NA); Services and networks architecture evolution for telecommunications".

[51] ETSI TR 101 686: "Hybrid Fibre Coax (HFC) access networks; Interworking with B-ISDN networks".

[52] ETSI TR 101 694: "Asynchronous Transfer Mode (ATM); Provision of internet applications via ATM based networks and interworking with IP networks".

[53] ETSI TR 101 734: "Internet Protocol (IP) based networks; Parameters and mechanisms for charging".

[54] ETSI TR 101 619: "Network Aspects (NA); Considerations on networks mechanism for charging and revenue accounting".

[55] ETSI TR 102 100: "Network Aspects (NA); Interworking framework".

[56] ETSI EG 201 400: "Hybrid Fiber Coax (HFC) access networks; Part 1: Interworking with PSTN, N-ISDN, Internet and digital mobile networks".

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[58] I- ETSI ETS 300 353: "Broadband Integrated Services Digital Network (B-ISDN); Asynchronous Transfer Mode (ATM); Adaptation Layer (AAL) specification - type 1".

[59] ETSI ETS 300 354: "Broadband Integrated Services Digital Network (B-ISDN); B-ISDN Protocol Reference Model (PRM)".

[60] ETSI ETS 300 404: "Broadband Integrated Services Digital Network (B-ISDN); B-ISDN Operation And Maintenance (OAM) principles and functions".

[61] ETSI ETS 300 469: "Broadband Integrated Services Digital Network (B-ISDN); Asynchronous Transfer Mode (ATM); Management of the network element view [ITU-T Recommendation I.751 (1996)]".

[62] ETSI ETS 300 478: "Network Aspects (NA); Connectionless Broadband Data Service (CBDS) over Asynchronous Transfer Mode (ATM); Framework and protocol specification at the User-Network Interface (UNI)".

[63] ETSI ETS 300 479: "Network Aspects (NA); Connectionless Broadband Data Service (CBDS) over Asynchronous Transfer Mode (ATM); Protocol specification at the Network Node Interface (NNI)".

[64] ETSI ETS 300 780: "Broadband Integrated Services Digital Network (B-ISDN); Broadband Connection-Oriented Bearer Service (BCOBCS) [ITU-T Recommendation F.811 (1996)]".

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[81] ITU-T Recommendation X.690: "Information technology - ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)".

[82] ISO 8859-1: "Information technology - 8-bit single-byte coded graphic character sets - Part 1: Latin alphabet No. 1".

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[89] ITU-T Recommendations G.825: "The control of jitter and wander within digital networks which are based on the synchronous digital hierarchy (SDH)".

[90] ITU-T Recommendation I.361: "B-ISDN ATM layer specification".

[91] ISO/IEC 11579-1: "Information technology - Telecommunications and information exchange between systems - Private integrated services network - Part 1: Reference configuration for PISN Exchanges (PINX)".

[92] ITU-T Recommendation I.430: "Basic user-network interface - Layer 1 specification".

[93] ITU-T Recommendation I.431: "Basic user-network interface - Layer 1 specification".

[94] ITU-T Recommendation F.850: "Principles of universal personal telecommunication (UPT)".

[95] ETSI ETS 300 455: "Broadband Integrated Services Digital Network (B-ISDN); Broadband Virtual Path Service (BVPS); Part 1: BVPS for Permanent communications (BVPS-P)".

[96] IETF RFC 1577: "Classical IP and ARP over ATM".

3 Information about the present document

Terms and definitions taken from ITU Recommendations are identified by appropriate reference in parentheses at the end of the definition. The numbers after the Q.9, G.601, G.701, I.112, I.113 and I.114 references are the word numbers in these documents.

Where the definition has been based upon, but differs from, a definition in another document, the reference is given followed by "modified".

Terms defining general used acronyms such as **Asynchronous Transfer Mode (ATM)** are written with leading capitals.

Some definitions include terms in *italics* to indicate that these terms are defined elsewhere in the present document.

The list of abbreviations and acronyms includes acronyms such as PAL and SECAM normally not used in network aspect contexts but generally used in the relevant standards and technical reports. Also included are acronyms with more than one meaning such as CC for Call Control, Country Code or Cross Connect. For some acronyms it is indicated in brackets in which context they are created, e.g. (Internet), (ATM Forum). Some out-of-date acronyms are marked (deprecated).

Many terms are overloaded with several meanings. For instance "virtual circuit" has a generic meaning and also a very specific non-generic meaning in ATM. For these multiple-meaning cases the generic form is presented first and the specific forms follow the generic form as new definitions but marked with area/scope within square brackets after the term in question. In cases where a term is valid within more than one field (and is not valued as a generic definition) the areas for which it applies are given within square brackets as a comma separated alphabetically ordered list

During the revision of the document specific concerns were raised regarding the usage of terminology which were found to be worth addressing them in particular. It is considered that these will be enlightening to the reader of the present document and provide a guideline outside the scope of the contained definitions while also conveying the specific generic revision decisions being made.

3.1 The distinction between old and new technologies

In older telecommunication definitions many terms were defined with an embedded distinction to some other technology. A classical example would be "analogue link" versus "digital link" which was required to distinguish old analogue FDM systems with then new TDM systems. Thus, the need to create definitions for digital switching only becomes of interest if you know and assume that switching normally used to be done with analogue channels.

Furthermore, the use of qualifiers like "emerging" is also part of a definition which will not survive the time. What was emerging and new at the time of the definition will be old in 10 to 20 years time and possibly be amusing to the engineers at that time.

A more subtle error of the same kind is to be found when a technology is being associated with a certain bit rate. For most technologies the bit rates they can support is changing over time. So, stating that Ethernet has the bit rate of 10 Mbit/s (which used to be true) would only date the definition to be historic at best. The usage of bit rates other than for examples or when a certain name has been given to denote a speed (i.e. E1, T1 etc.) shall thus be avoided.

3.2 Generic vs. Specific

Many terms have been found to apply only for specific technology areas even though the term bears no reference to that area. In such cases a more generic definition has been included. Also, some definitions have carried a subtle binding to a specific technology or means of implementation while this may be questioned. For those cases the definition was modified or replaced in order to provide a generic definition that only grasps the property while not implicating certain types of implementations.

4 Vocabulary of terms

address mask: bit mask used to identify the bits in an address which correspond to certain specific portions of the address

address resolution: Conversion of a network-layer address (e.g. IP address) into the corresponding physical address (e.g., MAC address) (see IETF RFC 1983).

addressable entity: entity which is recognizable by the network, to which the network is able to route a *call*

addressing domain: context within which an identifier (name, number, etc.) is unique

Abstract Syntax Notation One (ASN.1): language used by the OSI protocols for describing abstract syntax

NOTE 1: ASN.1 is defined in ISO documents 8824.2 and 8825.2, and ITU Recommendations X.680-X690, ISO standards 8824.2 and 8825.2, ITU-T Recommendations series X.680 to X.690.

access capability [ISDN]: Number and type of the access channels at an ISDN access interface that are actually available for tele*communication* purposes (see ITU-T Recommendation I.112-416).

access channel (channel) [ISDN]: Channel provided at the User Network Interface (see: *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".

access connection element (subscriber access) [ISDN]: equipment providing the concatenation of functional groups between and including the *exchange* termination and the NT1

NOTE 3: The term should be qualified by the type of access supported. That is either basic access *connection* elements or primary rate access connection elements (see ITU-T Recommendation I.112-429).

access contention [ISDN]: Conflict between the demands made on a network termination in multipoint access (see ITU-T Recommendation I.112-423).

access contention resolution [ISDN]: Arbitration of conflicting demands on a network termination in multipoint access (see ITU-T Recommendation I.112-424).

access function: Set of processes in a network that provide for interaction between the user and a network (see ITU-T Recommendation Q.1290).

access network: Implementation comprising those entities (such as cable plant, transmission facilities, etc.) which provide the required transport bearer capabilities for the provision of telecommunication services between one or more Service Node Interfaces (SNI) and each of the associated User Network Interfaces (UNI). An access network according to ITU-T Recommendation G.902 does not interpret user signalling. ITU-T Recommendation G.902 (modified), see also ITU-T Recommendation Y.101.

Access Network Interface (ANI): Interface between a local switch and an *access network* within a local network (see ITU-T Recommendation Y.101).

access network operator: Network operator to which the customer is physically connected (see TR 101 619).

access node: edge node of a network providing access to a network and its services

access protocol: Defined set of procedures that is adopted at an Access Network Interface enable the user to employ the service and/or facilities of that network (see ITU-T Recommendation I.112-406 modified).

accounting: procedure whereby revenue is shared between operators (see ITU-T Recommendation D.000 modified).

acknowledgement (ACK): Type of message sent to indicate that a previously sent message arrived at its destination. (See also: Negative Acknowledgement IETF RFC 1983 modified).

activation [ISDN]: Function which places a system, or part of a system, which may have been in low power consumption mode during deactivation, into its fully operating mode (see ITU-T Recommendation I.112-602).

actor: person or an entity who plays a visible role in the IN environment

address: String or combination of decimal digits, symbols, and additional information which identifies the specific termination point(s) in a network(s) (see ITU-T Recommendation E.164, modified).

address mask [IP]: Bit mask used to identify which bits in an IP address correspond to the network and subnet portions of the address. This mask is often referred to as the subnet mask because the network portion of the address (i.e., the network mask) can be determined by the encoding inherent in an IP address. See also: Classless Inter- domain Routing (see IETF RFC 1983).

address resolution: conversion of an address into some other address, possibly of another address format

addressable entity: entity which is recognizable by the network, to which the network is able to route a *call* or *message*

addressing domain: context within which an identifier (name, number, etc.) is unique

Adjunct (AD): Entity in the Intelligent Network that is functionally equivalent to a service control point but is directly connected to a service switching point (see ITU-T Recommendation Q.1290).

Administrative Domain (AD): Collection of hosts and routers, and the interconnecting network(s), managed by a single administrative organization (see IETF RFC 1983 modified).

Administrative Interface [Number Portability]: Interface/information base in which information on ported numbers is available for Network Operators (see TR 101 619).

Advice Of Charge (AOC): supplementary service related to the presentation of charging information to the user

NOTE 4: AOC appears in three versions AOC-S provides the served user with information about the charging rates at call establishment. In addition, the served user shall be informed if a change in charging rates takes place during the call. AOC-D provides the served user with cumulative charging information during the call. AOC-E provides the served user with charging information for a call when the call is terminated (see TR 101 619).

agent: Agent is an element that performs some task on behalf of some party (i.e., a user, machine, application, or another agent) rather than having the party itself perform the task (see ITU-T Recommendation Y.101).

aggregate stream: Stream composed of an aggregation of many individual streams (see EG 201 898).

alias: name/address that is translated into another name/address

NOTE 5: The translation may be done in order to provide shorter and/or easier names to a user.

NOTE 6: The translation may be done in order to make a virtual name/address to be widely spread while the real name/address is being kept in some database (see IETF RFC 1983 modified).

American Standard Code for Information Interchange (ASCII): standard character-to-number encoding widely used in the computer industry

NOTE 7: In more recent times it is being replaced by ISO 8859-1 and ISO 10646. However, ASCII is still widely used to denote binary encoding of alphanumeric text (see IETF RFC 1983).

analogue signal: *Signal* one of whose characteristic quantities follows continuously the variation of another quantity representing information (see ITU-T Recommendation I.112-103).

anisochronous: essential characteristic of a time-scale or a signal such that the time intervals between consecutive significant instants do not necessarily have the same duration or durations that are integral multiples of the Unit Interval

NOTE 8: Isochronous and anisochronous are characteristics of a signal, while synchronous and asynchronous are relationships (see ITU-T Recommendation G.701 modified and US Fed. Std.1037C.

appliance: Generic term used to describe the terminal device employed by the service application. Telephones, TV sets, computers, etc. are examples of appliances (see ITU-T Recommendation Y.101).

application: set of capabilities to satisfy a certain set of user's requirements

NOTE 9: An example of an application using the telephony service would an the information desk.

application entity: Set of Application Service Elements which together perform all or part of the communications aspects of an application process (see ITU-T Recommendation Q.9 - 2156 modified).

application layer [OSI]: Top layer of the ISO OSI network protocol stack. The application layer is concerned with the semantics of work (e.g. formatting electronic mail messages). How to represent that data and how to reach the foreign node are issues for lower layers of the network (see IETF RFC 1983 modified).

application process: Sequence of operations that perform the information processing for a particular application (see ITU-T Recommendation Y.101).

application program: Logic residing in the Service Control and Service Management realms that directs and/or controls the performance of actions in the network to provide and/or manage the provision of IN service features (see ITU-T Recommendation Q.1290).

Application Programming Interfaces (APIs): Interfaces that support the process of creating, installing, testing, modifying application programs (see ITU-T Recommendation Q.1290 modified).

Application Service Element (ASE): Coherent set of integrated functions within an application entity (see ITU-T Recommendation Q.9).

Application Service Element (ASE): Coherent set of integrated functions within an application entity (see ITU-T Recommendation Q.9-2158 modified).

Application Service Object (ASO): Configuration of various groups of application service elements (see ITU-T Recommendation Y.101).

architecture: Any ordered arrangement of the parts of a system (see ITU-T Recommendation Q.1290).

assigned cell [ATM]: cell which provides a service to an application using the ATM layer service

assigned numbers: subset of numbers assigned by an appointed authority

association: Logical relationship between entities exercised in performing a function (see ITU-T Recommendation Q.1290).

Asymmetrical Digital Subscriber Line (ADSL): Modem technology that converts twisted-pair telephone lines into access paths for data communications. The bit rates transmitted in both directions are different (see ITU-T Recommendation Y.101 modified).

asynchronous: characteristic of time scales or signals such that their is no fixed time relationship between its significant instants and any other system timing

NOTE 10: Isochronous and anisochronous are characteristics of a signal, while synchronous and asynchronous are relationships (see US Fed. Std.1037C).

Asynchronous Time Division (ATD) multiplexing [ATM, B-ISDN]: Statistical time division multiplexing technique in which a transmission capability is organized in undedicated slots filled with packets/*cells.* Packets/cells from the same source are usually all assumed to be anisochronous (see ITU-T Recommendation I.113-202 modified).

Asynchronous Transfer Mode (ATM): *Transfer mode* in which the information is organized into fixed-sized packets, called cells; the recurrence of cells in a connection is not necessarily isochronous (see ITU-T Recommendation I.113-204 modified).

ATM Adaptation Layer (AAL) [ATM]: ATM Adaptation Layer (AAL) enhances the service provided by the ATM layer to support functions required by the next higher layer. The AAL performs functions required by the user, control and management planes and supports the mapping between the ATM layer and the next higher layer. The functions performed in the AAL depend upon the higher layer requirements. (see ITU-T Recommendation I.363).

ATM connection: Concatenation of ATM layer links in order to provide an end-to-end transfer capability to access points (see ITU-T Recommendation I.113-505).

ATM End System Address (AESA): Address defined by the ATM Forum to be used in ATM networks. The AESA is derived from the ISO Network Service Access Point (NSAP) Address and hence may occur in different formats (see ATM-Forum Spec. af-ra-0106.000 modified).

ATM layer connection: Association established by the ATM layer to support *communication* between two or more ATM service users (i.e. two or more next higher layer entities, or two or more ATM management entities). The *communication* over an ATM layer *connection* may be either bi-directional or unidirectional (see ITU-T Recommendation I.113-506).

ATM link: Link provides for the capability of transferring information transparently, and represents the association, between two contiguous *connecting point*s or between an endpoint and its contiguous *connecting point* (see ITU-T Recommendation I.113-507).

ATM Name Server (ANS): Server program which supplies name-to-address translation, mapping from names of ATM end-systems to ATM address. ANS is an extension of the IETF DNS TR 101 694 [52].

ATM traffic descriptor: Generic list of traffic parameters that can be used to capture the intrinsic traffic characteristics of an ATM *connection* (see ITU-T Recommendation I.113-708).

ATM Transfer Capability (ATC): Set of ATM traffic control procedures, tailored to support a service with given traffic characteristics (see ITU-T Recommendation Y.101).

attribute: Information concerning a managed object used to describe (either in part or in whole) that managed object. This information consists of an attribute type and its corresponding attribute value (for "single-valued" attributes) or values (for "multi-valued" attributes) of managed object (see ITU-T Recommendation X.700).

authentication: verification of the identity of a person or process (see IETF RFC 1983).

Autonomous System (AS) [IP]: collection of routers under a single administrative authority using a common "Interior Gateway Protocol" for routing packets

NOTE 11: The ISO-term for such a collection of routers is "routing domain" (IETF RFC 1983 modified).

availability: measure of the relative degree of access to a particular resource or set of resources

NOTE 12: The term is usually measured as the relative availability of the full service as a time fraction. A high availability thus results in low outage time (see ITU-T Recommendation Y.101 modified).

backbone: Top level in a hierarchical network (IETF RFC 1983 modified).

bandwidth: Difference between limiting frequencies of a continuous frequency band (see US Fed. Std 1037C mod).

baseband: Transmission means through which digital signals are sent without frequency shifting. In general, only one communication channel is available at any given time. Ethernet and ISDN are examples of baseband networks IETF RFC 1983 modified.

basic access, basic rate access, basic rate interface (BRI) [ISDN]: ISDN user access arrangement that corresponds to the interface structure composed of two B-channels and one D-channel. The bit rate of the D-channel for this type of access is 16 kbit/s (see ITU-T Recommendation I.112 modified).

basic call: Call between two users that does not include additional features (e.g. a plain telephone call) (see ITU-T Recommendation Q.1290).

Basic Call Process (BCP): Sequence of activities used in processing a basic call attempt (ITU-T Recommendation Q.1290).

Basic Call State Model (BCSM): High-level finite state machine model of call processing for basic call control (i.e. a two party non-IN call). The model might only cover a portion of a call attempt, e.g. an originating BCSM or terminating BCSM, or the whole attempted call connection, originating user to terminating user (see ITU-T Recommendation Q.1290).

Baud (Bd) (as unit of modulation rate): one baud corresponds to a rate of one unit interval per second, where the modulation rate is expressed as the reciprocal of the duration in seconds of the shortest unit interval

Baud (Bd) (as unit of signalling speed equal to the number of discrete signal conditions, variations or events per second): If the duration of the unit interval is 20 milliseconds, the signalling speed is 50 Bauds. If the signal transmitted during each unit interval can take on any one of n discrete states, the bit rate is equal to the rate in Bauds times log2 n. The technique used to encode the allowable signal states may be any combination of amplitude, frequency, or phase modulation, but it cannot use a further time-division multiplexing technique to subdivide the unit intervals into multiple subintervals. In some signalling systems, non-informational-carrying signals may be inserted to facilitate synchronization; e.g. in certain forms of binary modulation coding, there is a forced inversion of the signal state at the centre of the bit interval. In these cases, the synchronization signals are included in the calculation of the rate of Bauds but not in the computation of bit rate.

NOTE 13: Baud is sometimes used as a synonym for bit-per-second. This usage is deprecated. (see US Fed. Std. 1037C).

bearer service: Type of telecommunication service that provides the capability for the transmission of signals between user-network interfaces (ITU-T Recommendation I.112-202 modified).

best-effort relationship: particular kind of connection (relationship) between two nodes A and B for which no commitment exists, but where it is possible that a datagram accepted at node A will arrive at node B

NOTE 14: However, there is no guarantee that the datagram will arrive at node B (see EG 201 898).

bill: Document from the billing entity to a served user in a decided format informing of the price for the usage of the concerned telecommunication services and resources. It shows the price for a single usage or the accumulated price for a certain period of usage. The information can be specified. It should be noted that the subscription fee and the periodic fee are normally included in the bill (see TR 101 619).

billing: See billing process.

billing entity: entity responsible for the joint billing activities for one or more providers to the served users (see TR 101 619).

billing process: Process of transferring the stored charging information for a user into a bill (see TR 101 619).

billing system: Technical entity performing the billing process (see TR 101 619).

bit: Acronym for "binary digit" which can have one of two values (0 and 1) (see ITU-T Recommendation V.56 bis, modified).

Bit Rate (BR): In a bit stream, the number of bits occurring per unit time, usually expressed in bits per second.

NOTE 15: For a n-ary operation, the bit rate is equal to log-n times the symbol rate (in Bauds), where n is the number of significant conditions per symbol in the signal (see US Fed. Std. 1037C).

block: Unit of information consisting of a *header* and/or trailer and an information field (ITU-T Recommendation I.113-301 modified).

block payload: bits in the information field within a *block* (see ITU-T Recommendation I.113-304).

branching point: connecting point splitting and/or merging 1 to n connection links

NOTE 16: Usually used in the meaning of splitting (i.e. multicast/point-to-multipoint sense).

bridge: Device which forwards traffic between network segments based on data link layer (OSI Layer 2) information (see IETF RFC 1983 modified).

broadband: relates to a service or system requiring transmission capacity greater than 1920 kbit/s (primary rate)

NOTE 17: The term is a qualifier usually to indicate the bandwidth or bit rate needed by a service. The usage has grown popular over the years but has no real connection to bitrate terms. Therefore the use of this term is strongly deprecated. ITU-T Recommendation I.113-101 modified.

broadband communication channel]B-ISDN]: Specific portion of the *information payload capacity*, available to the user for ISDN services. A *broadband communication* channel exists only during a call, as set-up by a *signalling* or administrative procedure.

NOTE 18: The term *broadband* is a qualifier usually to indicate the bandwidth or bit rate needed by a service. The usage has grown popular over the years but has no real connection to bitrate terms. Therefore the use of this term is strongly deprecated (see ITU-T Recommendation I.113-321 modified).

broadcast: *Communication* capability which denotes unidirectional distribution to all users connected to the network. The user terminal is responsible for selecting which broadcast information to receive.

broadcast communication: Unidirectional *communication* from a single source access point to an unlimited number (more than one) of unspecified destination access points (see ITU-T Recommendation I.140).

broadcast connection: Unidirectional connection between one (source) endpoint and an unlimited number (more than one) of unspecified destination endpoints (see ITU-T Recommendation I.140).

broadcast network: Network providing a multitude of sound, television or other information signals (see: broadcast).

broadcast organization: organization which runs a broadcast network

broadcasting service: Radiocommunication service in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, television transmissions or other types of transmission. (ITU Radio Regulations 36-3 and 36-17).

brouter: Device which bridges some packets (i.e. forwards based on data link layer information) and routes other packets (i.e. forwards based on network layer information). The bridge/route decision is based on configuration information (see IETF RFC 1983).

bypass switching: space switching from the receiver to the transmitter without involving the network layer

bypass switching [DTM]: space switching of slots from the receiver to transmitter on the same port on a per slot basis. Bypass switching does not include time-reorder (see ES 201 803-1).

Cable Distribution Network (CDN): Tree-structured coaxial/HFC network to transport a signal to appliances. Originally it was unidirectional and used for TV distribution (see ITU-T Recommendation Y.101 modified).

call: logical association between two or more endpoints, offering the possibility to make use of a telecommunication service

call contractor: network operator responsible for establishment of a call, which may contain contributions from a number of network operators and/or service providers

NOTE 19: In case of carrier selection, the call contractor is either the access network operator or the selected carrier. The arrangement is depending of national regulation and agreements between operators concerned. If the selected carrier is the Call Contractor the access from the calling party to the Access NO is outside the Call Contractor's responsibility (see TR 101 619 [54]).

call control: Set of functions used to process a call (e.g. provide service features and establish, supervise, maintain and release connections) (ITU-T Recommendation Q.1290).

Call Control Agent Functional entity (CCAF): Functional entity that provides network access functions for users, interacting with Call Control Functional entities in providing services (ITU-T Recommendation Q.1290).

Call Control Functional entity (CCF): Functional entities which co-operate with each other to provide network call processing functions (ITU-T Recommendation Q.1290).

Call Detail Record (CDR): data record containing call detail information relating to a specific call or call attempt instance

NOTE 20: Sometimes the term "Call Data Record" is used for this purpose. However, its use should be avoided. ITU-T Recommendation Q.825 [33].

Call Instance Data (CID): identifier that defines call specific details (i.e. value will change with each call instance) for service independent building blocks in the global functional plane

call management: ability of a user to indicate to the network how to handle incoming calls according to certain parameters such as the originator of the call, the time of day and the nature of the call

NOTE 21: *Call management* is done through the user's service profile ITU-T Recommendation I.114-109 [88] .

Call Model (CM): Representation of functions involved in processing a call (see ITU-T Recommendation Q.1290).

call reference: Parameter e.g. in ISUP/INAP signalling messages indicating a specific call, globally or within certain limits (see TR 101 619 modified).

call segment: Specific portion of the processing of a call (see ITU-T Recommendation Q.1290).

Call Segment Model (CSM): Representation of the processing of a call in terms of call segments (see ITU-T Recommendation Q.1290).

call/service processing: Execution of logic by a switching or control function to advance a call attempt or a service request (ITU-T Recommendation Q.1290).

Capability Set (CS): Set of Intelligent Network capabilities that are to be the subjects of standardization activities and for which the availability of standards Recommendations will be targeted for a particular time frame (see ITU-T Recommendation Q.1290).

carrier selection: Possibility for the user to select a Network Operator (NO) different from the access Network Operator. The carrier selection is made either on call-by-call basis or based on preselection of a certain Network Operator. Carrier selection on call by call basis can be managed by access code overriding the default Network Operator access and a preselection (see TR 101 619 modified).

CATV: Used as a general term for "cable television" (historically used to indicate "Community Antenna TeleVision" - a centralized installation of television antennas that serves a community of users) (see ITU-T Recommendation J.1 and EG 201 400).

CATV based access Network: See: Hybrid Fiber Coax (HFC) access network.

cell [ATM]: Packet of fixed length (used e.g. in ATM).

cell conformance: Algorithm that identifies cells that conform to negotiated traffic parameters and traffic control procedures at a standardized interface (see ITU-T Recommendation Y.101).

Cell Delay Variation (CDV) [ATM]: variation of the actual arrival time of an ATM cell with respect to the theoretical (calculated) arrival time measured between two given points of an ATM connection

cell delineation [ATM]: Identification of cell boundaries in a cell stream (see ITU-T Recommendation I.113-306).

cell entry event [ATM]: Event which occurs when the last bit of an ATM cell has completed transmission across a measurement point along a connection (see ETR 155).

cell exit event [ATM]: Event which occurs when the first bit of an ATM cell has completed transmission across a measurement point along a connection (see ETR 155).

cell rate decoupling [ATM]: includes insertion and suppression of idle cell, in order to adapt the rate of valid ATM cells to payload capacity of the transmission system

centralized charging method: Means charging outside the switch points in charging centres common to a number of switch points (see TR 101 619).

channel, transmission channel: Means of unidirectional transmission of signals between two points. Several channels may share a common infrastructure (see ITU-T Recommendation I.112-108 modified).

channel-associated signalling: 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 (see ITU-T Recommendation I.112-502).

characteristic information: those parts of a format definition of the basic traffic entity of a layer network which is transported unchanged across a connection or circuit

NOTE 22: Characteristic information is always defined in relation to a particular layer network. For example, characteristic information on layer 2 may not be characteristic information on layer 3, since it can be changed when a traffic entity instance is moving across a network node (see EG 201 898 [65]).

charging: Process by which the usage of resources is converted into charge units which will be billed to the customer. (see: billing process).

NOTE 23: The usage parameters are usually given in Call Detail Records.

checksum: Computed value which is dependent upon the contents of a block of data. This value is sent along with the data block when it is transmitted. The receiving system computes a new checksum based upon the received data and compares this value with the one sent with the block. If the two values are the same, the receiver has a high degree of confidence that the data was received correctly (see IETF RFC 1983 [74]).

circuit, telecommunication circuit: Transmission means which allows communication between two points (see ITU-T Recommendation E.600).

circuit switching: relates to a connection between two or more terminals providing resources which are exclusively dedicated to that connection

NOTE 24: The Public Switched Telephone Network (PSTN) is an example of a circuit switched network.

Classless Inter-domain Routing (CIDR): Proposal, set forth in IETF RFC 1519, to allocate IP addresses so as to allow the addresses to be aggregated when advertised as routes. It is based on the elimination of intrinsic IP network addresses; that is, the determination of the network address based on the first few bits of the IP address IETF RFC 1983.

clearing centre: Technical entity to handle the clearing activity for the revenue accounting between a number of interworking and co-operating telecommunication providers Network Operators transfer general accounts for clearing and receive cleared invoices (see TR 101 619).

client: Computer system or process that requests a service of another computer system or process. A workstation requesting the contents of a file from a file server is a client of the file server (see IETF RFC 1983).

client-server model: communication paradigm in which one side of the communication is a client requesting a service from the other side of the communication which is called a server

clock: Equipment that provides a timing signal (see ITU-T Recommendation G.810).

clock signal: synchronization signal provided by a clock

NOTE 25: The clock signal is used to time the transmissions of a data signals and to identify the optimum detection times of a received data signal. Telephony's Directory, modified.

collection connection: on demand, reserved or permanent multipoint-to-point connection transferring user information from a defined number of remote endpoints called leaves toward one endpoint called root. All flows (user and other - if appropriate) are only in one direction

common channel signalling: 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 (see ITU-T Recommendation I.112-503).

communication: Transfer of information between two or more users, entities, processes or nodes according to some agreed conventions (see ITU-T Recommendation I.112 modified).

communication entity: physical or logical object that is able to take part in an instance of communication

compression: representation scheme to reduce the size of data maintaining acceptable quality

NOTE 26: Compression schemes are usually designed for a particular type of data or content and may give lower compression and/or quality for other types (see ITU-T Recommendation Y.101 modified [42]).

configuration management: Set of management functions which exercise control over the extensions or reductions of a system, the status of the constituent parts and the identity of their allocation (see ITU-T Recommendation I.113-604, ITU-T Recommendation M.3010).

congestion: state of a system or a part thereof which is entered when the traffic load exceeds the capacity of the system which is then no longer able to meet the negotiated QOS objectives for the already established connections and/or for the new connection requests

NOTE 27: A system being in congestion may refuse new traffic or may drop established traffic.

congestion control: Set of actions taken to relieve congestion by limiting the spread and duration of it (see ITU-T Recommendation I.113-703).

connecting point: Point inside a connection where two adjacent links come together. It is located within a level where the information is routed transparently; it provides the connecting functions (see ITU-T Recommendation I.113-508).

connection: Association of transmission channels, switching and other functional units set up to provide a means for a transfer of information between two or more points in a telecommunications network (see ITU-T Recommendation Q.9-0011 modified).

Connection Admission Control (CAC): set of actions taken by the network at the call set up phase (or during call re-negotiation phase) in order to determine whether a connection can be accepted or rejected (or a request for re-allocation can be accommodated)

NOTE 28: Admission can be denied based on bandwidth, security, etc. (see ITU-T Recommendation I.113-704 modified [17]).

connection attribute [ISDN]: specified characteristic of an ISDN connection

NOTE 29: The value(s) assigned to one or more connection attributes may be used to distinguish that connection from others. (see ITU-T Recommendation I.112-315 [16]).

connection control: Set of functions used for setting up, maintaining and releasing a communication path between two or more users or a user and a network entity, e.g. a dual tone multi-frequency receiver (see ITU-T Recommendation Q.1290)

connection element [ISDN]: Part of an ISDN connection which has stated values of one or more ISDN connection attributes (see ITU-T Recommendation I.112-317).

Connection End Point (CEP) [ATM]: Point located at the level boundary (e.g. between VC level and VP level) where the level service is provided to the next higher level or to the management plane. The CEP provides the connection termination functions (see ITU-T Recommendation I.113-509).

connection leg: connection leg of a point-to-multipoint connection is part of a connection between a destination endpoint and the previous branching connection point. If the leaf party connected to the connecting leg is leaving or being dropped, the connection leg is released.

connection less: property of data transport where there exist no knowledge regarding a data transmission prior to the data transmission

connection oriented: Communication method in which communication proceeds through three well-defined phases: connection establishment, data transfer, connection release (see IETF RFC 1983 modified).

connection owner: Party related to the root endpoint, who establishes the connection and as such owns the connection. The connection owner is the only party who may renegotiate the connection characteristics, add and drop new leaf endpoints and release the complete connection.

connection type, ISDN connection type: Part of an ISDN connection which has stated values of one or more ISDN connection attributes (see ITU-T Recommendation I.112-316).

connectionless: Data communication method in which communication occurs without establishing a dedicated path. Packets between two endpoints may take different routes. IP is a connectionless protocol (see IETF RFC 1983 modified).

connectionless service: service which allows the transfer of information between users without the need for end-to-end call establishment procedures

NOTE 30: Connectionless services may be used to support both interactive and distributive services. (see ITU-T Recommendation I.113-105 [17]).

Connectivity: capability to establish and maintain data transfer between networks and parts thereof

Constant Bit Rate (CBR) service [ATM]: Telecommunication service characterized by a service bit rate specified by a constant value (see ITU-T Recommendation I.113-103).

content integrity: property of a system such that information offered at an input is delivered unchanged at an output

content provider: Entity which offers information to the user (see TR 101 734).

continuity check: Mechanism to test the availability of a certain link or connection. Normally qualified to indicate the object being supervised; (e.g. VP continuity check) ITU-T Recommendation I.113-614 modified.

contribution, contribution application: Use of a channel for transferring audio, video or other information to a user for further post-production processing and subsequent distribution (see ITU-T Recommendation I.113-111 modified).

control channel: Channel to be used for call signalling and management (see ES 201 803-1 modified).

control window: Interval during which an entity involved in call/service processing is subject to the control of the Service Control Function (see ITU-T Recommendation Q.1290).

conversational service: *i*nteractive service which provides for bi-directional communication by means of real- time (no store and forward) end-to-end information transfer from user to user (see ITU-T Recommendation I.113-114).

cordless terminal: Physical entity that provides access to the telecommunication services of a network via a radio or infra red interface (see TR 101 619).

Cordless Terminal Mobility (CTM): Scenario of cordless terminals moving within the limits of a certain radio based network or within the limits of co-ordinated radio based networks (see TR 101 619).

core network: Portion of the delivery system composed of networks, systems equipment and infrastructures, connecting the service providers to the access network (see also backbone network) ITU-T Recommendation Y.101.

core service feature: particular service feature fundamental to the telecommunication service, i.e., in the absence of this service feature, the telecommunication service does not make sense as a commercial offering to the service subscriber

customer equipment: equipment owned and operated by customer

Customer Premises Equipment (CPE): See customer equipment.

Cyclic Redundancy Check (CRC): number derived from a set of data that will be transmitted used at the receiving side to detect errors occurred during transmission

NOTE 31: By recalculating the CRC at the remote end and comparing it to the value originally transmitted, the receiving node can detect some types of transmission errors (see IETF RFC 1983 modified [74]).

data: User and/or network information stored in the network used in connection with call/service processing
An instance of a data object (see ITU-T Recommendation Q.1290).

data base: Entity that stores information (see ITU-T Recommendation Q.1290).

data link layer: Data link layer (layer 2 in ISO/OSI reference model) provides the functional and procedural means to transfer data between network entities (using the physical layer) and to detect and possibly correct errors that may occur in the physical layer. (see US Fed Std 1037C modified).

data management: Establishing, updating and administering data bases in the network (see ITU-T Recommendation Q.1290).

data object: Individually addressable unit of information specified in a data template (see ITU-T Recommendation Q.1290).

data template: Specified logical structure for a collection of data objects, including allowable ranges for their values and other data consistency specifications (see ITU-T Recommendation Q.1290).

datagram: Datagram is a packet with full address information enabling it to be routed to the endpoint without further information (see EG 201 898).

deactivation [ISDN]: Function which places a system, or part of a system, into a non-operating mode where the power consumption of the system may be decreased (low power consumption mode) (see ITU-T Recommendation I.112-601).

decryption: Decoding of encrypted information. (see also encryption) (see ITU-T Recommendation Y.101).

defect: Limited interruption of the ability of an item to perform a required function. It may or may not lead to maintenance actions depending on the results of additional analysis (see ITU-T Recommendation M.60).

digressive charging: Charging which decreases stepwise or continuously during the call (see also Increasing charging TR 101 619).

delayed discount: Discount triggered by actions/events occurring after the call execution (see TR 101 619).

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

NOTE 32: The usage of "on demand service" is also noted (see ITU-T Recommendation I.112-205 [16]).

Detection Point: Point in basic call processing at which a processing event may be reported to the Service Control Function and transfer of processing control can occur (see ITU-T Recommendation Q.1290).

deterministic: process is said to be deterministic if prior to the occurrence of some event in the process the outcome of that process can be determined

deterministic [ATM]: Mode of the asynchronous transfer mode in which a constant information transfer capacity expressed in terms of a predetermined limiting value for a given service is provided to the user throughout a call (see ITU-T Recommendation I.113-209).

dialog(ue): Conversation or an exchange of information (see ITU-T Recommendation Q.1290).

dialup connection: Temporary, as opposed to dedicated, connection between machines established e.g. over a phone line (analogue or ISDN) (see IETF RFC 1983).

digital channel, digital transmission channel: Means of unidirectional digital transmission of digital signals between two points (see ITU-T Recommendation I.112-109).

digital circuit, digital telecommunication circuit: Combination of two digital transmission channels permitting bi-directional digital transmission between two points, to support a single communication (see ITU-T Recommendation I.112-112).

digital connection: 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 (see ITU-T Recommendation I.112-310).

digital exchange: Exchange that switches digital signals by means of digital switching (see ITU-T Recommendation I.112-116).

digital link, digital transmission link: means of digital transmission with specified characteristics between two points

digital network, integrated digital network: set of digital nodes and digital links that provides communication between two or more defined points

digital section: Whole of the means of transmission of a digital signal of specified rate between two consecutive reference points. The term should be qualified by the type of access supported (see ITU-R Recommendation G.701).

digital switching: Process in which connections are established by operations on digital signals without converting them to analogue signals (see ITU-T Recommendation Q.9).

digital switching node: node at which digital switching occur (see ITU-T Recommendation Q.9).

digital transmission: Transmission of digital signals by means of a channel or channels that may assume in time any of a defined set of discrete states (see ITU-T Recommendation G.701).

digital transmission path: Whole of the means of transmitting and receiving a digital signal of specified rate between two digital distribution frames (or equivalent) at which terminal equipment or switches will be connected. Terminal equipment are those at which the signal originates or terminates. A transmission path is connected through one or more digital sections (see ITU-T Recommendation I.113-501).

direct access, direct connection element [ISDN]: Specific access connection element in which the basic access digital section or primary rate access digital section is directly connected to the exchange termination at a V_1 or V_3 reference point respectively (see ITU-T Recommendation I.112-432).

direct debit service: Means that the jobs to bill the users, to receive the billed income and to account the revenue are performed by an entity entitled to manage that for a co-operating group of network and service providers (see TR 101 619 modified).

directory number: Catalogue number for a telecommunication subscriber (see TR 101 619).

discount: Reduction of the charging for a certain service compared to the generally applicable charging for that service (see TR 101 619).

discretely-timed signal: 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 (see ITU-T Recommendation I.112-104).

distributed charging method: It means that charging is distributed partly or completely to the switch points in the network (see TR 101 619).

Distributed Computing Environment (DCE): Architecture of standard programming interfaces, conventions, and server functionalities (e.g., naming, distributed file system, remote procedure call) for distributing applications transparently across networks of heterogeneous computers. Promoted and controlled by a consortium called the Open Software Foundation (OSF) (see IETF RFC 1983, IETF RFC 1208 modified).

distributed database: Collection of several different data repositories that looks like a single database to the user. A prime example in the Internet is the Domain Name System (see IETF RFC 1983).

Distributed Functional Plane (DFP): Plane in the Intelligent Network conceptual model containing functional entities and their relationships (see ITU-T Recommendation Q.1290).

Distributed Service Logic (DSL): Logic in the distributed functional plane that is used to realize Service Independent Building blocks (see ITU-T Recommendation Q.1290).

distribution service: service characterized by the unidirectional flow of information from a given point in the network to other (multiple) locations

NOTE 33: Distribution services are subdivided into two classes:

- distribution service without user individual presentation control; and
- distribution service with user individual presentation control (see ITU-T Recommendation I.113-1190 [17]).

distribution service with user individual presentation control: Distribution service in which the information is provided as sequence of information entities e.g. frames with cyclical repetition, so that the user has the ability to select individual information entities and can control the start and order of the information (see ITU-T Recommendation I.113-120).

distribution service without user individual presentation control: Distribution service which users can access without having any control over the start and order of the presentation of the distributed information (see ITU-T Recommendation I.113-1210.

distribution, distribution application: Use of a channel for transferring audio, video or other information to a user or a number of users who will not be expected to apply post-production processing to the information (ITU-T Recommendation I.113-110 modified).

domain: part of an entity (a network, an address space etc.) that is managed by a particular commercial or administrative entity

domain: Organizations requirements for managing a collection of managed objects in management environment (see ITU-T Recommendation M.60).

Domain Name Server (DNS): Server program which supplies name-to-address translation, mapping from domain names to IP address (see TR 101 694).

Domain Name System (DNS): General purpose is for distributed, replicated, data query service. The principal use is the lookup of addresses based on names. In the IP case host names are converted to IP addresses. In the Internet the host names are organized in a hierarchy of domains (see IETF RFC 1983 modified).

downstream direction: direction from the network towards the user in unidirectional configurations: the direction of the traffic towards the destination

DTM network: set of interconnected DTM nodes

NOTE 34: A DTM network may be single-domain or multi-domain (see ES 201 803-1 [66]).

dynamic arming/disarming: Enabling/disabling of a detection point by a Service Control Function in the course of service control execution for a particular call/service attempt (see ITU-T Recommendation Q.1290).

dynamic data: Information subject to change as a result of call/service processing (see ITU-T Recommendation Q.1290).

Dynamic synchronous Transfer Mode (DTM): transfer mode in which the information is organized into channels where each channel consists of one or more slots out of the TDM frame

NOTE 35: The DTM provides an isochronous network service.

E1: Basic building block for the Plesiochronous Digital Hierarchy (PDH) based on the first level hierarchical bit rate of 2,048 Mbit/s (see also: T1).

NOTE 36: This is colloquial form.

elementary function: Primary or basic function that cannot be further decomposed (see ITU-T Recommendation Q.1290).

emulation: Simulation in real time (see ITU-T Recommendation Y.101).

encapsulation: Technique used by layered protocols in which a layer adds information to the protocol data unit (PDU) from the layer above (see IETF RFC 1983, IETF RFC 1208 modified).

encryption: Encryption is the manipulation of data in order to prevent any but the intended recipient from accessing that data (see IETF RFC 1983 modified).

enhanced quality television: Television of a quality superior to existing-quality television, but less than the quality of high-definition television (see ITU-T Recommendation I.113-123).

entity: Part, device, subsystem, functional unit, equipment or system that can be individually considered. This corresponds to the concept of Resource in TMN.

error check code: specific result of the error detection code mechanism

error checking: Examination of received data for transmission errors. See also: checksum, Cyclic Redundancy Check (IETF RFC 1983).

Error Detection Code (EDC): Mechanism for error detection (see ITU-T Recommendation I.113-615 modified).

ethernet: Standard for LANs. All hosts are connected to a cable where they contend for network access using a Carrier Sense Multiple Access with Collision Detection (CSMA/CD) paradigm (see IETF RFC 1983 modified, ANSI/IEEE Std. 802.3).

event: Specific input to and/or output from a given state in a finite state machine model that causes a transition from one state to another (see ITU-T Recommendation Q.1290).

event detection point: Detection point that is dynamically armed (see ITU-T Recommendation Q.1290).

exchange: 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 (see ITU-T Recommendation I.112-115).

exchange connection: Connection that is established through an exchange. between the terminations on that exchange, of two or more channels or circuits (see ITU-T Recommendation I.112-313).

Exchange Termination (ET): Functional group containing at least the layer 2 and layer 3 network-side functions of the ITU-T Recommendation I.420 interface at the T reference point.

NOTE 37: This may not be true if concentrators or other intelligent equipment are located in the local line distribution network.

NOTE 38: The ET is not the switching function. The extent to which the ET supports call control processing and management is not defined (see ITU-T Recommendation I.112-428 [16]).

executive process: Process that controls the execution of other processes (see ITU-T Recommendation Q.1290).

existing quality television: Television as defined in conventional 625-line and 525-line standards such as NTSC, PAL and SECAM (see ITU-T Recommendation I.113-122).

failure: Termination of the ability of an item to perform a required function (see ITU-T Recommendation I.113-602).

Far End Receive Failure (FERF): Specific type of alarm for failure reporting. It indicates that the failure has occurred at or near to the end of the line furthest from the transmitter (see ITU-T Recommendation I.113-616).

Fault: Inability of an item to perform a required function, excluding that inability due to preventive maintenance, lack of external resources, or planned actions (see ITU-T Recommendation I.113-603).

fault localization: Determination by internal or external test systems of a failed entity (see ITU-T Recommendation I.113-611 modified).

fault management cell: Specific OAM cell used for fault management. Various types of fault management cells are defined related to specific functions; e.g. AIS, FERF, Continuity Check (see ITU-T Recommendation I.113-612).

feature: See service feature.

feature interaction: interference of an entity with the intended and expected behaviour of either of another entity, or of another instance of itself

NOTE 39: In the case of service features, interaction occurs either:

- when a service feature inhibits or subverts the expected behaviour of another service feature considered separately of another instance of the same service feature; or
- when the joint accurate execution of two service features provokes a supplementary phenomenon which cannot happen during the processing of each of the service features considered separately.

feedback controls: set of actions taken by the network and by the users to regulate the traffic submitted on ATM connections according to the state of network elements

Fiber Distributed Data Interface (FDDI): High-speed (100Mb/s) LAN standard. The underlying medium is fiber optics, and the topology is a dual-attached, counter- rotating token ring (see IETF RFC 1983, IETF RFC 1208).

file: Set of related records treated as a unit (see ITU-T Recommendation Q.9).

file transfer: Copying of a file from one computer to another over a computer network (see IETF RFC 1983).

flow: Number of packets that are sent from a particular source to a particular destination and that are related in terms of their routing and any logical handling policy they may require. Flows can be unicast or multicast, but in any case they are unidirectional (see IETF RFC 1953 modified).

flow control: Function which controls the flow of data within a layer or between adjacent layers (see ITU-T Recommendation X.2000.

fragment: piece of a packet

EXAMPLE: When a router is forwarding an IP packet to a network that has a maximum transmission unit smaller than the packet size, it is forced to break up that packet into multiple fragments. These fragments will be reassembled by the IP layer at the destination host. See also: Maximum Transmission Unit (see IETF RFC 1983 [74] modified).

fragmentation: Process in which a packet is broken into smaller pieces to fit the requirements of a lower layer over which the packet must pass. See also: reassembly, IETF RFC 1983 modified.

frame: General term for a delimited amount of data. The occurrence of frames can be synchronous in which case the amount of data is fix (e.g. in transmission systems) or asynchronous where the amount of date may be variable (e.g. in packet switching).

frame relay: Transfer of data as a sequence of contiguous bits bracketed by and including beginning and end flag sequences. See frame relaying bearer service.

frame relaying bearer service: Frame relaying bearer service provides the bi-directional transfer of variable size Service Data Units (SDUs) from one S or T reference point to another with the order preserved. The SDUs are routed through the network by appropriate layer 2 Protocol Data Units (PDUs) on the basis of an attached label (see ITU-T Recommendation I.233.1).

framed interface: Interface where the serial bit stream is segmented into periodic physical frames. Each frame is divided by a fixed partition into an overhead and an information payload portion (see ITU-T Recommendation I.113-311).

function: set of processes defined for the purpose of achieving a specified objective

NOTE 40: Functions may be ordered in a logical hierarchy (see ITU-T Recommendation I.112-403 [16]).

function: Set of processes defined for the purpose of achieving a specified objective (see ITU-T Recommendation I.112-403).

Function Element (FE): Signal representing a functional exchange of layer 1 information at the V_1 interface (see ITU-T Recommendation I.112-509).

functional entity: Grouping of service providing functions in a single location and a subset of the total set of functions required to provide the service (see ITU-T Recommendation Q.9-7113).

Functional Entity Action (FEA): Action performed by a functional entity as a result of a specific stimulus while the functional entity is in a specific state (see ITU-T Recommendation Q.1290).

functional group (functional grouping): Set of functions that may be performed by a single equipment (see ITU-T Recommendation I.112-419).

gateway: relay mechanism that attaches to two (or more) networks/systems that have similar functions but dissimilar implementations and that enables users on one network to communicate with users on another

NOTE 41: In theory, gateways are conceivable at any OSI layer. In practice, they operate at OSI layer 3 (see: bridge, router) or layer 7 (see: proxy server). When the two networks differ in the protocol by which they offer service to hosts, the gateway may translate one protocol into another or otherwise facilitate interoperation of hosts (see IETF RFC 2828 modified [76]).

general broadcast signalling virtual channel: Virtual channel independent of service profiles and used for broadcast signalling (see ITU-T Recommendation I.113-410)

generic address: Address which identifies a set of Network Service Access Points (NSAPs), rather than a single specific NSAP (see ITU-T Recommendation X.213).

geographical and non geographical numbering plan: Geographical numbering plan will use the first digits in the access number for a telecommunication subscription to indicate the geographical area in which the switch point access is located. The non-geographical numbering does not indicate the geographical location of the subscription's switch point access (see TR 101 619).

global control: Control of a process whose functions are distributed among several entities (see ITU-T Recommendation Q.1290).

Global Functional Plane (GFP): Plane in the Intelligent Network conceptual model which defines Service Independent building Blocks (SIBs) used in providing service features (see ITU-T Recommendation Q.1290).

Global Information Infrastructure (GII): Collection of networks, end user equipment, information, and human resources which can be used to access valuable information, communicate with each other, work, learn, receive entertainment from it, at any time and from any place, with affordable cost on a global scale (see ITU-T Recommendation Y.101).

Global Service Logic (GSL): Logic in the Global Functional Plane that is used to realize features (see ITU-T Recommendation Q.1290).

grasp: Term used in multicast communication to denote the addition of a new subtree or leaf into an existing multicast distribution tree. The operation thus creates a new (or extends an existing) splitting point of the distribution tree.

handover: changing of the path over which information flows between two communicating radio nodes without being disconnected

Head End (HE): Element in a CATV system which receives information from a service provider and transmits it towards the end users (see ITU-T Recommendation Y.101 modified).

header: Portion of a packet, preceding the actual data, containing control information (see *trailer*), IETF RFC 1983 modified.

hierarchical routing: Complex problem of routing on large networks can be simplified by reducing the size of the networks. This is accomplished by breaking a network into a hierarchy of networks, where each level is responsible for its own routing.

home network: Network domain, different from the originating network, containing the (subscriber specific) service data needed during call processing. This domain is called home network because in many cases (but not necessarily) it is the same domain as where the service subscriber resides.

hop: Term used in routing. A path to a destination on a network is a series of hops, through routers, away from the origin (see IETF RFC 1983).

host: Computer that allows users to communicate with other host computers on a network. Individual users communicate by using application programs, such as electronic mail, Telnet and FTP (see IETF RFC 1983).

Hot Billing (HB): Process to produce a bill immediately after a call release. The input for this is the UMRs produced for the call or similar information (see TR 101 619).

hub: device to connect other devices which have to be of the same type

Hybrid Fiber Coax (HFC) access network: Access network using FDM transmission technology based on radio frequencies in which fibre links are used for the main distribution path, while coaxial links are used as the final link into the users premises. See also CATV based access network (see ITU-T Recommendation J.1 modified).

hybrid interface structure: Interface structure which has a mixture of labelled channels and positioned channels (see ITU-T Recommendation I.113-330).

hybrid network [IN]: Overall IN which consists of any concatenation of public and private networks. The user perspective of the services offered by a hybrid network is common and consistent across the public and private network components of the hybrid network.

NOTE 42: There are more than one definition which could apply to the term concerned in other areas.

hyperlink: Pointer within a hypertext document which points (links) to another document, which may or may not also be a hypertext document. See also hypertext (see IETF RFC 1983).

hypertext: Document, written in HTML, which contains hyperlinks to other documents, which may or may not also be hypertext documents. Hypertext documents are usually retrieved using WWW. See also: hyperlink, Hypertext Markup Language, World Wide Web (IETF RFC 1983).

Hypertext Markup Language (HTML): Language used to create hypertext documents. It is a subset of the Structured Generalized Markup Language (SGML) and includes the mechanisms to establish hyperlinks to other documents See also: hypertext, hyperlink (see IETF RFC 1983).

idle cell: cell which is inserted or extracted by the physical layer in order to adapt the cell flow rate at the boundary between the ATM layer and the physical layer to the available payload capacity of the transmission system

interactive real-time transport connection: connection that is capable of transporting traffic of the type "interactive real-time" (see EG 201 898).

IN Conceptual Model (INCM) [IN]: Planning model used for defining the Intelligent Network architecture (see ITU-T Recommendation Q.1290).

IN Data Base (INDB) [IN]: Physical entity used for information storage in the Intelligent Network (see ITU-T Recommendation Q.1290).

IN Data Base Management System (INDBMS) [IN]: system used for establishing and/or administering information storage in the Intelligent Network

NOTE 43: This definition is subject to change (see ITU-T Recommendation Q.1290 [35]).

IN supported service [IN]: Service provided using the capabilities of the Intelligent Network (see ITU-T Recommendation Q.1290).

increasing charging: Charging which increases stepwise or continuously during the call. See Digressive Charging (see TR 101 619).

INFO: Defined layer 1 signal with specified meaning and coding at a basic access user-network interface (see ITU-T Recommendation I.112-507).

information flow: Interaction between a communicating pair of functional entities (see ITU-T Recommendation Q.9-7120).

information payload capacity: Difference between the interface rate and the interface overhead rate, that is the bit rate of the interface payload (see ITU-T Recommendation I.113-315).

in-slot signalling: Signalling associated with a channel and transmitted in a digit time-slot permanently (or periodically) allocated in the channel time-slot (see ITU-T Recommendation I.112-504).

instant discount: Discount triggered at the call execution (see TR 101 619).

integrated connection: Connection that supports at least two traffic types (see EG 201 898).

integrated digital transmission and switching: Direct (digital) concatenation of digital transmission and digital switching, that maintains a continuous digital transmission path (see ITU-T Recommendation I.112-117).

Integrated Services Centrex (ISCTX): implementation of a PTNX offering ISDN-like capabilities, as part of public network equipment

NOTE 44: An ISCTX is usually located on the premises of a public network operator (see ETS 300 415 [85]).

Integrated Services Digital Network (ISDN): Integrated services network that provides digital connections between user-network interfaces (see ITU-T Recommendation I.112-308).

integrated services network: Network that provides or supports a range of different telecommunication services (see ITU-T Recommendation I.112-307).

Integrated Services Private Branch Exchange (ISPBX): implementation of a PTNX offering ISDN-like capabilities, separate from public network equipment

NOTE 45: An ISPBX is usually located on the premises of a private network administrator (see ETS 300 415 [85]).

Intelligent Network (IN): Telecommunications network architecture that provides flexibility for facilitating the introduction of new capabilities and services, including those under customer control (see ITU-T Recommendation Q.1290).

Intelligent Network Application Protocol (INAP) [IN]: Protocol for Intelligent Network applications contained in layer 7 (application of the OSI model) (see ITU-T Recommendation Q.1290).

Intelligent Peripheral (IP) [IN]: Physical entity that implements the Intelligent Network specialized resource function (see ITU-T Recommendation Q.1290).

Inter Carrier Interface (ICI): Interface between networks belonging to different network operators (in North America called carriers) (ITU-T Recommendations SG 4, SG 15).

Inter Network Interface (INI): Interface between two networks. See also Network Node Interface (NNI) (see ITU-T Recommendation Y.101 modified).

interaction: mutual or reciprocal action or influence

interaction detection: moment when an interaction germination is detected before any interaction manifestation occurs

interaction germination: Data modification or initialization which prepares an interaction manifestation either later on in the same call or in a further call. It may take place either at service initialization, or at service activation, or at service subscription, or else during management (data modification).

interaction manifestation: moment when an interworking between two services causes a situation viewed as unsatisfactory from any of the actors

interaction resolution: Processing of mechanisms designed to solve an unsatisfactory interworking situation, which has germinated either in the same call or in a previous call. This processing is often a consequence of interaction detection. However, it may take place either before (if it is preventative), during or after (if it is curative) interaction germination.

interaction spotting: analysis of the new service, in conjunction with already existing service, in order to find as many interaction cases as possible

interactive real-time stream: real-time stream related to an interactive application

NOTE 46: An interactive real-time stream must use a connection that fulfils the constraints for non-interactive streams plus minimum round-trip delay requirements (see EG 201 898 [65]).

interactive service: Service which provides the means for bi-directional exchange of information between users or between users and hosts.
Interactive services are subdivided in three classes of services:

- conversational services;
- messaging services; and
- retrieval services (see ITU-T Recommendation I.113-113 [17]).

interchange medium: Type of means to interchange data between systems can be either a storage medium, a transmission medium or a combination (see ITU-T Recommendation I.374).

interconnection: physical and logical linking of telecommunication networks allowing users of one organization to communicate with users of another organization or to access services provided by another organization

interface: Shared boundary between two units (sub systems or devices) (see ITU-T Recommendation Y.101 modified, ITU-T Recommendation Q.9 modified).

interface overhead: Remaining portion of the bit stream after deducting the information payload. The interface overhead may be essential (e.g. framing for an interface shared by users) or ancillary (e.g. performance monitoring), see ITU-T Recommendation I.113-313.

interface payload: Portion of the bit stream of a framed interface which can be used for telecommunication services. Any signalling is included in the interface payload (see ITU-T Recommendation I.113-312).

interface rate; interface bit rate: gross bit rate at an interface, that is, the sum of the bit rates of the interface payload and the interface overhead

Example: The bit rate at the boundary between the physical layer and the physical medium (see ITU-T Recommendation I.113-314 [17]).

interface specification: Formal statement of the type, quantity, form and other of the interconnections and interactions between two associated systems, at their interface (see ITU-T Recommendation I.112-412).

interface structure, ISDN user-network interface structure: Number and type of the access channels that appear at an ISDN user-network interface (see ITU-T Recommendation I.112-415).

Interior Gateway Protocol (IGP): Protocol which distributes routing information to the routers within an autonomous system. The term "gateway" is historical, as "router" is currently the preferred term (see IETF RFC 1983).

Intermediate System (IS) [OSI]: OSI system which performs network layer forwarding. It is analogous to an IP router (see IETF RFC 1983).

internet: Historically used for a set of interconnected networks (IETF RFC 1983 modified).

internet: Collection of interconnected networks using the Internet Protocol (IP) which allows them to function as a single, large virtual network (see ITU-T Recommendation Y.101).

internet address: Uniquely identifies a node on the Internet (see IETF RFC 1983).

Internet application: Any application normally running on TCP/IP or UDP/IP as described in IETF standards (see TR 101 694).

Internet Protocol (IP, IPv4): Internet Protocol (version 4), defined in IETF RFC 791, is the network layer for the TCP/IP Protocol Suite. It is a connectionless, best-effort packet switching protocol (see IETF RFC 1983).

Internet Protocol Version 6 (IPng, IPv6): IPv6 is a new version of the Internet Protocol which is designed to be an evolutionary step from its predecessor, version 4

NOTE 47: Version 5 is a stream protocol used for special applications.

NOTE 48: There are many IETF RFCs defining various portions of the protocol, its auxiliary protocols, and the transition plan from IPv4. The name IPng (IP next generation) is a nod to STNG (Star Trek Next Generation) IETF RFC 1983 [74] modified.

interoperability: Capability to provide successful communication between end-users across a mixed environment of different domains, networks, facilities, equipment etc. (see TR 101 287).

interval billing: Billing process in telecommunication performed periodically e.g. in intervals of three months (see TR 101 619).

interworking: Ability of equipment to communicate successfully in order to achieve a particular service There may exist intermediate equipment acting as gateways. There are different types of interworking:

1) network interworking:

- interactions between different types of networks, end systems, or parts thereof, with the aim of providing an end-to-end communication for a specific service;
- refers to the functions and requirements supporting the interworking of networks with different low layer capabilities in order to support the interworking of services across the network boundary, for example, to support 3,1 kHz audio transfer.

2) Service interworking.

bearer service interworking: refers to the functions and requirements supporting the communication of terminals operating over different ISDN bearer services within an ISDN

teleservice interworking: Refers to the functions and requirements supporting the communication of terminals belonging to different ISDN teleservices (e.g. ISDN teletex to ISDN telefax). Such interworking will involve the use of communication-dependent interworking functions as defined in Recommendation I.510. Teleservice interworking can be supported by interworking functions provided by the network, by a service provider, and/or by terminals. Teleservices interworking and bearer services interworking may also include the support of supplementary services as appropriate. ITU-T Recommendation I.510 modified; ITU-T Recommendation I.501.

Intrinsic Burst Tolerance (IBT): Traffic parameter which characterizes the maximum burst duration at a specified peak cell rate, for use together with a Sustainable Cell Rate (SCR) in addition to a Peak Cell Rate (PCR) (see ITU-T Recommendation Y.101).

IntServ Flow: unidirectional flow of IP packets for which in an IntServ (RSVP) reservation is valid

NOTE 49: Since RSVP allows senders to share a reservation (resource) a flow can have multiple source addresses(one flow per session). For unicast sessions or if a distinct reservation is made, the flow has only one sender. An IntServ flow is defined by its source address(es), optional source port, destination address and destination port (see TR 101 734 [53]).

invalid cell: Cell where the header by the header error control process is declared to contain errors (see ITU-T Recommendation I.113-317).

IP (-based) network: general term denoting networks based on the Internet Protocol (IP) suite
A network which uses IP as the Layer 3 protocol.

IP address: 32-bit address defined by the Internet Protocol in IETF RFC 791. It is usually represented in dotted decimal notation (see IETF RFC 1983).

ISDN connection: Connection that is established through an ISDN between specified ISDN interfaces (see ITU-T Recommendation I.112.

ISDN customer access (ISDN subscriber access): Equipment providing the concatenation of all functional groups relevant to an individual or group of related access connection elements (i.e. customer equipment and access connection element).

NOTE 50: This term should not imply or restrict ownership or responsibility for providing equipment (see ITU-T Recommendation I.112-431 [16]).

Isochronous: Essential characteristic of a time-scale or a signal such that the time intervals between consecutive significant instants have durations that are integral multiples of the Unit Interval.

NOTE 51: Isochronous and anisochronous are characteristics of a signal, while synchronous and asynchronous are relationships (see US Fed. Std.1037C).

jitter: Short-term non-cumulative variations of the significant instants of a digital signal from their ideal positions in time. ITU-T Recommendation G.701-2024

jitter tolerance: In order to ensure that, in general, any equipment can be connected to any appropriate interface within a network, it is necessary to arrange that the input ports of all equipment types are capable of accommodating levels of jitter and wander up to at least the minimum limits defined in the following clauses (see ITU-T Recommendation G.823 modified).

NOTE 52: See also ITU-T Recommendations G.825 [89].

labelled channel: Temporally-ordered collection of all block payloads having a common label value (see ITU-T Recommendation I.113-322).

labelled deterministic channel: Labelled channel with the property that the aggregated payload capacity of all blocks in each successive interval of specified constant duration is a constant (see ITU-T Recommendation I.113-323).

labelled interface structure: Interface structure in which all services and signalling is provided by labelled channels
A labelled interface structure can be accommodated within a framed interface or a self-delineating labelled interface (see ITU-T Recommendation I.113-327).

labelled multiplexing: Multiplexing of labelled channels by concatenating the blocks of the different channels (see ITU-T Recommendation I.113-325).

labelled statistical channel: Labelled channel in which the payload of the successive blocks of the channel is random and/or the block durations are random (see ITU-T Recommendation I.113-324).

layer (level): conceptual region that embodies one or more functions between an upper and a lower logical boundary within a hierarchy of functions

NOTE 53: The Open System Interconnection (OSI) reference model has seven layers (see ITU-T Recommendation I.112-404 [16]).

layer interface: Interface between adjacent layers of hierarchy of layers (see ITU-T Recommendation I.112-410).

leaf, leaf endpoint: endpoint of a point-to-multipoint connection

leg: representation within a call processing state model representing a telecommunication path towards some addressable entity (e.g. a path toward a user, intelligent peripheral unit etc.) (see ITU-T Recommendation Q.1290).

level: Term level is used when describing the hierarchical structure of a network from a transport viewpoint (see ITU-T Recommendation I.113-511 modified).

Library: Assembly of objects, routines, programs, etc. that may be drawn upon for use in the performance of functions (see ITU-T Recommendation Q.1290).

line activation: Function which requires the digital line transmission system to be activated but which may also activate the user-network interface (ITU-T Recommendation I.112-604).

Line Termination (LT): Functional group containing at least the transmit and receive functions terminating one end of a digital transmission system (see ITU-T Recommendation I.112-427).

line-only activation: Function which requires the activation of only the digital line transmission system and does not activate the user-network interface (see ITU-T Recommendation I.112-605).

link connection: Transport entity provided by the client/server association. It is formed by near-end adaptation function, a server trail and a far end adaptation function between connection points. It can be configured as part of the trail management process in the associated server layer (see ETS 300 469).

link, transmission link: means of transmission with specified characteristics between two points

NOTE 54: The type of transmission path or the capacity is normally indicated, e.g. radio link, coaxial link, or 2 048 kbit/s link (see ITU-T Recommendation I.112-301 [16]).

layer network: "topological component" that includes both transport entities and transport processing functions that describe the generation, transport and termination of a particular characteristic information

NOTE 55: IP and ATM are examples of layer networks, capable of handling IP and ATM flows respectively. ITU-T Recommendation G.805 modified [10].

Local Area Network (LAN): data network intended to serve an area of only a limited coverage
Because of that, optimizations can be made in the network signal protocols

NOTE 56: The relevant standards can be found in the IEEE 802.x Series [68], resp. ISO 8802 and IETF RFC 1983 modified [74].

local exchange, ISDN local exchange: Exchange which, in addition to the switching function, contains the exchange termination for the ISDN customer accesses (see ITU-T Recommendation I.112-118).

location portability (related to Number Portability): Service that allows the customer to retain his Directory Number when his premises location is moved within a certain area (see TR 101 619).

logical channel: Data path access from the user to a packet network (see TR 101 619).

Logical Link Control (LLC): Upper portion of the data link layer (layer 2 in OSI model), as defined in IEEE 802.2. The LLC sublayer presents a uniform interface to the user of the data link service, usually the network layer. Beneath the LLC sublayer is the MAC sublayer (see IETF RFC 1983).

logical signalling channel: Logical channel for signalling information which is contained within an information channel or a physical signalling channel (see ITU-T Recommendation I.113-408).

logical user port: set of VPs at the UNI associated with one single VB5 reference point

MAC address: Hardware address of a device connected to a shared media (see IETF RFC 1983).

maintenance event: Instantaneous maintenance occurrence that changes the global status of an object (see ITU-T Recommendation I.113-608).

Manageability: Characteristic of a set of resources, which allows an enterprise, organization, or consumer to control how these resources are deployed and/or utilized (see ITU-T Recommendation Y.101).

managed entity: Physical or logical resource that is to be managed (see ITU-T Recommendation I.113-606).

managed object: See object (ITU-T Recommendation M.60).

managed resource/target: Anything that may be subject to (target of) a management activity. These may be physical or logical. These may be related to each others (functionally, hierarchically, by containment, etc...) or independent.

management application: Application process participating in systems management. The applications actually implement the management services.

management entity: Entity capable of providing management functions (e.g. operation, administration, maintenance and provisioning), see ITU-T Recommendation I.113-605.

management function: smallest part of a management service as perceived by the user of the service

Management Information Base (MIB): Conceptual repository of management information within an open system. Management information may be shared between management processes and is structured according to the requirements of those processes. The MIB neither restricts the interpretation of management data to a pre-defined set, nor to whether the data is stored in a processed or unprocessed form. However, both the abstract syntax and the semantics of information which is part of the MIB are defined so that they can be represented in OSI protocol exchanges (see ITU-T Recommendation X.700, ITU-T Recommendation M.60).

management service: area of management activity which provides for the support of operations, administration, and maintenance of the system being managed

management system: Functional system which supports the management of user and/or network information and resources for the proper operation of a service (see ITU-T Recommendation Y.101).

manager: role that a management system takes when it is monitoring or controlling managed resources

map: To map (over) is to establish a defined correspondence with the quantities or values of another set (see ITU-T Recommendation Q.9).

maximum bit rate: Maximum bit rate corresponds to the maximum usable transfer bit rate from the users standpoint (see ETS 300 780).

Maximum Transmission Unit (MTU): Largest frame length which may be sent on a physical medium. See also frame, fragment, fragmentation (see IETF RFC 1983).

Mbone: Multicast Backbone is based on IP multicasting using class-D addresses (see IETF RFC 1983).

mean bit rate: Mean bit rate correspond to the average usable transfer bit rate from the users standpoint (see ETS 300 780).

media: Plural of medium (see ITU-T Recommendation Y.101).

Media Access Control (MAC): Lower portion of the data link layer (layer 2 in the OSI model). The MAC differs for various physical media (see IETF RFC 1983).

mediation device: TMN term indicating a device situated between NE and OS managing information to be transferred between NE and OS (see TR 101 619).

medium (plural media): Means by which information is perceived, expressed, stored or transmitted. The term "media" has many meanings depending on the context in which it is used. For unambiguous usage the term should always be accompanied by one of the following expressions:

- perception medium;
- representation medium;
- presentation medium;
- storage medium;
- transmission medium (see ITU-T Recommendation I.374).

merging connection point: connection point merging n to 1connection links

mesochronous: Relationship between two signals whose corresponding significant instants occur at the same average rate. The phase relationship between corresponding significant instants usually varies between specified limits. Telephony's Dictionary.

message: traffic type where the instances are datagrams related to events in a controlled system

NOTE 57: Messages are usually small, less than 1 kByte.

NOTE 58: Signals in the control plane are typical messages (see EG 201 898 [65]).

message mode: Mode of service offered by the AAL type 3/4 and 5, where the AAL SDU is passed across the AAL interface in exactly one AAL IDU (see ITU-T Recommendation I.113-523).

message transport network: network that in some way is capable of transporting traffic type Message

NOTE 59: A signalling network is a typical message transport network (see EG 201 898 [65]).

messaging service: Interactive service which offers user-to-user communication between individual users via storage units with store-and-forward, mailbox and/or message handling, (e.g. information editing, processing and conversion) functions (see ITU-T Recommendation I.113-115).

meta-signalling: Procedure for establishing, checking and releasing signalling virtual channels (see ITU-T Recommendation I.113-411).

metering: Measurement of the usage of resources (e.g. transmission, processing, storage) which can be used for charging. In ETSI sometimes named also "collection of charging information".

NOTE 60: The measured usage is being handled as call data record (CDR) data (see TR 101 734 modified [53]).

Metropolitan Area Network (MAN): Data network intended to serve an area approximating that of a large city Such networks are being implemented by innovative techniques, such as running fiber cables through subway tunnels. A popular example of a MAN is SMDS (see IETF RFC 1983).

middleware: Mediating entity between two information elements. Such an element can be, for example, an application, infrastructure component, or another mediating entity (see ITU-T Recommendation Y.101).

mixed document: Document that may contain text, graphics, data, image and moving picture information as well as voice annotation (see ITU-T Recommendation I.113-106).

mobility: ability of an entity or element to be used in different systems or environments, with a continuity of services while changing of systems or environment (including geographical position)

monitor window: Interval during which an entity performs the monitoring function at the direction of a Service Control Function (see ITU-T Recommendation Q.1290).

monitoring cell: Specific OAM cell used for performance monitoring (see ITU-T Recommendation I.113-610).

multicast: unidirectional communication from a single source to a subset of the reachable destinations

multicast communication: Unidirectional communication from a single source access point to a limited number (more than one) of specified destination access point (see ITU-T Recommendation I.140).

multicast distribution tree: Tree like structure that the data distribution path within a network as the data is being transported from one sender unidirectional towards the receivers of the multicast flow or stream. The receivers of the multicast flow or stream is being viewed as leafs in the trees where as the transmitter is being the root of the tree. The distribution tree may be modified under operation to add (see: grasp) or remove (see: prune) tree sections and leafs.

multicast group: Set of nodes being a subset of nodes within some network participating in a common multicast session. The group may contain multiple transmitters (IP multicast allows this) and may contain zero or more receivers. Systems allowing for multiple transmitters within some multicast group may allow for a receiver not to listen to all the available transmitters. For such a case may the multicast distribution tree be optimized to only contain the necessary distribution path.

multicast group identifier: Identifier used to identify some multicast group. Such an identifier may take the from of an address (see multicast address).

multiconnection call: call which is supported by two or more connections between the users

multimedia: Property of a piece of information, an application or user equipment, to handle several types of data. Multimedia is an adjective and must be attached to a noun to define a precise context, e.g. multimedia service, multimedia network, multimedia application (see ITU-T Recommendation I.374).

multimedia call: call which offers a multimedia service

multimedia service: Service in which the interchanged information consists of more than one type, such as text, graphics, sound, image and video (see ITU-T Recommendation I.113-107).

multi-operator/multi-provider environment: Telecommunication area in which a number of network operator and service providers are serving the users (see TR 101 619).

multiparty call: call in which three or more users are involved

multiparty multiconnection call: call that has both multiparty and multiconnection characteristics

multipoint: Communication configuration attribute which denotes that the communication involves more than two network terminations (see ITU-T Recommendation I.113-109 modified).

multipoint access: User access in which more than one terminal equipment is supported by a single network termination (see ITU-T Recommendation I.112-422).

multipoint-to-multipoint communication: bi-directional asymmetric or bi-directional symmetric communication from multiple ITU-T Recommendation I.140 source access points to multiple destination access points, e.g. conference communication

multipoint-to-multipoint connection: Connection between multiple (source) endpoints and multiple (destination) endpoints for bi-directional asymmetric or bi-directional symmetric communication (see ITU-T Recommendation I.140).

multipoint-to-point communication: Bi-directional asymmetric, bi-directional symmetric or unidirectional communication from multiple (source) access points to a single (destination) access point, e.g. polling station (and in reverse direction), ITU-T Recommendation I.140.

multipoint-to-point connection: Connection between multiple (source) endpoints and a single (destination) endpoint for bi-directional asymmetric, bi-directional symmetric or unidirectional communication (see ITU-T Recommendation I.140).

name: Identification of an object. The significance of a name is related to the domain in which it is used.

namespace: Commonly distributed set of names in which all names are unique (see IETF RFC 1983).

negative acknowledgement (NAK): Response to the receipt of either a corrupted or unexpected packet of information. See also *Acknowledgement* (see IETF RFC 1983).

network: Set of nodes and links that provides communication between two or more defined points (see ITU-T Recommendation I.112-305, Y.101 modified).

Network Access Point (NAP): Physical entity that provides network access for users. It contains the Call Control Agent Function and may include the Call Control Function (see ITU-T Recommendation Q.1290).

Network Access Server (NAS): new name for "Point of Presence" (POP)

network address: Name or number used to identify a node or a nodes interface within the scope of a network. The network address is usually globally unique throughout the network where as there exist several important special cases for which the address is not unique (see: anycast address, broadcast address, loopback address and multicast address).

Network Address Translation (NAT) [IP]: Method by which IP addresses are mapped from one address realm to another providing transparent routing to end hosts (see IETF RFC 2663).

network charging capabilities: Set of actions and procedures performed by the network in order to determine all the network parameters of a communication, which are required for account management, and to determine the values of these parameters (see ETR 123).

network charging capabilities: Set of procedures performed by the network elements in order to determine all the parameters of one communication session, which are required for assessing the effort provided by the network, and to determine the values of these parameters (see TR 101 734).

network connection: Transport entity formed by the series of connections between termination connection points (see ETS 300 469).

network determined user busy: Refers to the situation where the network has determined that resources required to complete the call on the called users access interface are not currently available (see ETS 300 780).

network interface functions: functions belonging to the Head End in a HFC access network

network interworking: co-operation of networks to process, manage and create services, which span multiple networks

network layer service: provision of resources by the network for the transmission of data

NOTE 61: To provide services above the best effort delivery the mechanisms of the Integrated Services or the Differentiated Services Model can be used (see TR 101 734).

Network Node Interface (NNI): Interface at a network node which is used to interconnect with another network node An NNI connecting two nodes in different networks is sometimes referred to as an Inter Network Interface (INI).

network operator: network operator is responsible for the development, provisioning and maintenance of real-time networking services and for operating the corresponding networks

Network Parameter Control (NPC): Set of actions taken by the network to monitor and control traffic at the inter Network Node Interface, to protect network resources from malicious as well as unintentional misbehaviour by detecting violations of negotiated parameters and taking appropriate actions (see ITU-T Recommendation I.113-706)

network portability [Number Portability]: Service that allows the customer to retain the Directory Number when he from the same location is shifting to another network access. The Recipient Network type can be different from the Donor Network type and/or the Recipient Network and the Donor Network can belong to different Network Operators (see TR 101 619 [54]).

Network Provider (NP): Term with the same significance as the term "Network operator" (see TR 101 619).

Network Termination (NT): functional group on the network side of a user-network interface

NOTE 62: In ITU-T Recommendation I.430 and I.431, "NT" is used to indicate network terminating layer 1 aspects of NT1 and NT2 functional groups (see ITU-T Recommendation I.112-418 [16]).

Network to Network Interface type A (NNI-A): Interface between a long-distance backbone network and a local network (see ITU-T Recommendation Y.101).

Network to Network Interface type B (NNI-B): Interface between a long-distance backbone network and a peer long-distance backbone network (see ITU-T Recommendation Y.101).

networking function: Enables a platform to provide network capabilities for a service (see TR 101 615).

Network Operator (NO): Entity which provides the network operating elements and resources for the actual execution of services (see ETS 300 780).

node address: Network layer address of a node (ES 201 803-1).

node, switching node, network node: In network topology, a terminal of any branch of a network, or a terminal common to two or more branches of the network. From technical point of view, a configuration of engineering objects forming a single unit for the purpose of location in space, and which embodies a set of processing, storage and communication functions.

Specifically:

- In a switched communications network, the switching points, including patching and control facilities (e.g. exchanges).
- In a data network, the location of a data station which interconnects data transmission lines (e.g. routers).

A point in a cable television network, at which signals are switched and distributed (e.g. Hubs) Telephony's Dictionary, ITU-T Recommendation X.903, modified; ITU-T Recommendation J.1 Amd.1.

nomadicity: Continuity of access between two information infrastructure components as they move in space (see ITU-T Recommendation Y.101).

non real-time stream: collection of non-real-time flows

EXAMPLE 2: A set of interleaved ATM cells transporting several files in parallel (see EG 201 898 [65]).

non-interactive real-time flow: real-time flow which is serving a non-interactive application

EXAMPLE 3: Video-on-demand transmission from repository to video player for direct view (see EG 201 898 [65]).

non-interactive real-time stream: collection of non-interactive real-time flows

EXAMPLE 3: Several TV channels transported over one physical medium in an interleaved mode (see EG 201 898 [65]).

non-interactive real-time transport connection: Connection that in some way is capable of transporting traffic type non-interactive real-time flow (see EG 201 898).

non-real-time flow: Flow which is serving a non real-time application (see EG 201 898 modified).

non-switched connection: Connection that is established without the use of switching, for example by means of hard-wired joints (see ITU-T Recommendation I.112-312).

non-switched connection element, non-switched ISDN connection element: ISDN connection element that is established without switching (see ITU-T Recommendation I.112-319).

number: Name expressed as a string of digits. In some cases it may contain location information.

number portability: Possibility for a telecommunication customer to retain the directory number when his access is moved to another network type, to another Network Operator, or if he moves his geographical location within the switchpoint area, within the numbering area, within the charging area or anywhere (see TR 101 619).

OAM cell: Cell that carries OAM information for the performing of specific OAM functions. The term maintenance cell is often used as synonym for OAM cell (see ITU-T Recommendation I.113-609).

OAM flow: Bi-directional information flow for the performance of OAM functions in the network (see ITU-T Recommendation I.113-613).

OAM level: OAM functions are organized in five OAM hierarchical levels associated with the ATM and the Physical Layer, to which correspond five OAM flows (see ITU-T Recommendation I.113-512).

object: View of one or more resources. The abstract view of such a resource that represents its properties as seen by (and for the purpose of) management (see ITU-T Recommendation M.60).

one-step activation: Type of activation which invokes a sequence of actions to activate the digital line transmission system and user-network interface from a single command (see ITU-T Recommendation I.112-606).

one-step deactivation: Deactivation of the digital line transmission system and user-network interface invoked by a single command (see ITU-T Recommendation I.112-608).

Open Systems Interconnection (OSI): Suite of protocols, designed by ISO committees, to be the international standard computer network architecture (see IETF RFC 1983, ITU-T Recommendations X.200-, X.600-, X.700-, X.800- series of common texts with ISO).

Operations System (OS): TMN term indicating a management system (see TR 101 619).

Operations Systems (OS): Physical block which performs operations system functions (OSFs), see ITU-T Recommendation M.3010.

Operations Systems Function block (OSF): OSF processes information related to telecommunication management for the purpose of monitoring/co-ordinating and/or controlling telecommunications functions and support functions including management functions (i.e. the TMN itself), see ITU-T Recommendation M.60.

optional service feature: service feature added to core features to optionally enhance a service offering

originating network: network domain from where the call is set-up

OSI Reference Model: Seven-layer structure designed to describe computer network architectures and the way that data passes through them. This model was developed by the ISO in 1978 to clearly define the interfaces in multivendor networks, and to provide users of those networks with conceptual guidelines in the construction of such networks (see IETF RFC 1983 and ITU-T Recommendation X.200).

out-slot signalling: Signalling associated with a channel and transmitted in one or more separate digit time-slots not within the channel time-slot (see ITU-T Recommendation I.112-505).

packet: Ordered set of bits which may have variable length and which may contain control information (see EG 201 898 modified).

packet switching: Communications paradigm in which packets (messages) are routed between hosts. See also *circuit* switching IETF RFC 1983 modified.

packet transfer mode: Transfer mode in which the transmission and switching functions are achieved by packet oriented techniques, so as to dynamically share network transmission and switching resources between a multiplicity of connections (see ITU-T Recommendation I.113-208).

payload module: That portion of the information payload, of an interface, within which one or more channels entirely exist (see ITU-T Recommendation I.113-316).

Payload Type Identifier (PTI): 3-bit field in the ATM cell header identifying the type of payload.

NOTE 63: The use of this identifier is specified in ITU-T Recommendation I.361 [90] .

Peak Cell Rate (PCR): Upper limit on the rate at which cells can be submitted on an ATM connection (see ITU-T Recommendation Y.101).

perception medium: Nature of the information as perceived by the user (see ITU-T Recommendation I.374).

performance management: Set of management functions which enable the performance of the network services to be measured and corrective actions to be taken (see ITU-T Recommendation I.113-617).

performance management cell: Specific OAM cell used for performance management (ITU-T Recommendation I.113-618 modified).

performance monitoring: Action of continuous or periodic checking of a managed entity to test its normal functioning (see ITU-T Recommendation I.113-619).

periodic frame: Transmission segment which is repeated at intervals of equal duration (e.g. 125 μs), and may be delineated by incorporating fixed periodic patterns into the bit stream (see ITU-T Recommendation I.113-310).

permanent activation: Activation of a system, or part of a system, that will not be deactivated even it is not required to be fully operating (see ITU-T Recommendation I.112-603).

permanent circuit service, permanent circuit telecommunication service: 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 64: Release of the communication path is effected in a similar way to its establishment (ITU-T Recommendation I.112-207 [16]).

Permanent Virtual Circuit (PVC): A permanent virtual circuit is a permanent "connection" for an undefined period of time or a permanent "connection" only set up according to calendar statements, periodically or non-periodically. A permanent virtual circuit relates to packet oriented traffic (see TR 101 619).

persistent data: Information that endures beyond a single instance of use, e.g. longer than one call attempt (see ITU-T Recommendation Q.1290).

personal mobility: ability of a user to access telecommunication services at any terminal on the basis of a personal identifier, and the capability of the network to provide those services according to the user's service profile

NOTE 65: Personal mobility involves the network capability to locate the terminal associated with the user for the purposes of addressing, routing and charging of the user's calls (see ITU-T Recommendation I.114-102 [88]).

phase: period within a session in which the traffic characteristics do not change

NOTE 66: A new phase is entered if the reservation parameters are renegotiated.

NOTE 67: If a session can consist of multiple flows, the traffic characterization can be different for each flow. A phase specifies a period of a session or a period of a flow. Since charging parameters (like price per time unit or length of a measurement interval) can depend on the time of day, the entering of a new time period (e.g. business hours) might be also considered as the entering of a new phase (see TR 101 734 [53]).

physical frame: Segment of a serial logical bit stream at an interface, partitioned into successive segments (see ITU-T Recommendation I.113-309).

physical interface: Interface between two equipments (see ITU-T Recommendation I.112-411).

physical interface specification (physical interface): Formal statement of the mechanical, electrical, electromagnetic and optical characteristics of the interconnections and interactions between two associated equipments, at their interface (see ITU-T Recommendation I.112-413).

physical link: Unidirectional connection between the transmitter part of one port to the receiver side of another port (see ES 201 803-1).

physical plane: Plane in the Intelligent Network conceptual model containing elements and their interfaces that implement functional entities (see ITU-T Recommendation Q.1290).

physical signalling channel: Dedicated physical channel (e.g. D-channel) used for signalling information
It may be used to carry other information (see ITU-T Recommendation I.113-407).

plane: Part of a functional model (see ITU-T Recommendation Q.1290 modified, ITU-T Recommendation I.322).

platform: Set of capabilities that enable the provision of services to users (see TR 101 615).

player: Player is an organization, or individual, which undertakes one or more roles (see ITU-T Recommendation Y.101).

plesiochronous: relationship between two signals such that their corresponding significant instants occur at nominally the same rate, any variation being constrained within a specified limit

NOTE 68: There is no limit to the phase difference that can accumulate between corresponding significant instants over a long period of time (see US Fed. Std.1037C).

Point In Call (PIC): State in a basic call state model (see ITU-T Recommendation Q.1290).

Point Of Initiation (POI): Functional interface between basic call processing and service logic over which service control is initiated (see ITU-T Recommendation Q.1290).

Point Of Presence (POP): Initial entry point to a network for the majority of users of network services. It is the first device in the network to provide services to an end user, and acts as a gateway for all further services. As such, its importance to users and service providers alike is paramount. There is a new term introduced for the POP: Network Access Server (NAS) (see ETF RFC 2881 [77]).

Point Of Return (POR): Functional interface between service logic and basic call processing over which call processing control is returned to basic call processing (see ITU-T Recommendation Q.1290).

point-to-multipoint communication: Bi-directional asymmetric or bi-directional symmetric communication from one (source) access point to multiple (destination) access points (and in reverse direction) (see ITU-T Recommendation I.140).

point-to-multipoint connection: Connection between one (source) endpoint and multiple (destination) endpoints for bi-directional asymmetric or bi-directional symmetric communication (see ITU-T Recommendation I.140).

point-to-multipoint ISDN connection: ISDN connection that is established between a single specified ISDN interface, and more than one other specified ISDN interface (see ITU-T Recommendation I.112-320).

point-to-point ISDN connection: ISDN connection that is established between two specified ISDN interfaces (see ITU-T Recommendation I.112-320).

port: Termination through which signals can enter or leave a network. In the Internet used as a logical address for the application (see ITU-T Recommendation B.13).

portability: Ability of an entity or element to be used in different systems or environments (see ITU-T Recommendation Y.101 modified).

positioned channel: Channel that occupies bit positions which form a fixed periodic pattern (e.g. B- H- and D-channels in ISDN user network interfaces), see ITU-T Recommendation I.113-328.

positioned interface structure: Structure in which all services and signalling are provided by positioned channels Such a structure can exist only within a framed interface (see ITU-T Recommendation I.113-329).

post-production processing: Further processing of contributed audio and video information, to change the form or presentation of the information prior to its final utilization (see ITU-T Recommendation I.113-112).

presentation medium: Type of physical means which is used to reproduce information to the user (output device) or the acquired information from the user (input device) (see ITU-T Recommendation I.374).

price Information unit: Technical entity handling requests for charging information to the served users e.g. Advice Of Charge (see TR 101 619).

pricing: correlation between "money" and "goods" or "service"

NOTE 69: The term is not generally used in telecommunications, the usual term being "tariffing" (see TR 101 734 [53]).

primary rate access: ISDN user access arrangement that corresponds to the primary rates of 1 544 kbit/s and 2 048 kbit/s. The bit rate of the D-channel for this type of access is 64 kbit/s. The typical primary rate interface structures are as given in ITU-T Recommendation I.412 and I.431 (see ITU-T Recommendation I.112 modified).

primitive: See *service primitive*.

private: Attribute indicating that the application of an item qualified by "private", e.g. a network, a unit of equipment, a service, is offered to a pre-determined set of users. This attribute does not indicate any aspects of ownership.

NOTE 70: This definition does not include legal or regulatory aspects ETS 300 415 [85].

private network: Network which provides services to a specific set of users only (see ITU-T Recommendation I.570).

Private Telecommunication Network (PTA): Network serving a pre-determined set of users (different from a public network which provides services to the general public). The attribute "private" does not indicate any aspects of ownership.

NOTE 71: This definition does not include legal or regulatory aspects.

NOTE 72: PTNs are sometimes referred to as Corporate Telecommunication Networks (CTNs). PTNs may extend over large geographical areas. This definition does not imply any specific implementation.

NOTE 73: It is the intention to align the definition of "PTN" with that of "Private Integrated Service Network (PISN)" as defined by ISO/IEC 11579-1 [91]. This will facilitate the evolution towards the consistent world-wide use of the term "PISN". This will not invalidate the scope of the service standardized by ETSI for PTNs (see ETS 300 415 [85]).

Private Telecommunication Network eXchange (PTNX): PTN nodal entity that provides automatic switching and call handling functions used for the provision of telecommunication services. The nodal entity can be implemented by one or more pieces of equipment located on the premises of the private network administrator or by equipment co-located with, or physically part of, a public network.

NOTE 74: If applicable, a PTNX provides to users of the same and/or other private telecommunication network exchanges:

- telecommunication services within its own area; and/or
- telecommunication services from the public ISDN; and/or
- telecommunication services from other public or private networks; and/or
- within the context of a private telecommunication network, telecommunication services from other private telecommunication network exchanges.

NOTE 75: It is the intention to align the definition of "PTNX" with that of "Private Integrated Services Network eXchange (PINX)" as defined by ISO/IEC 11579-1 [91]. This will facilitate the evolution towards the consistent world-wide use of the term "PINX". A PTNX may perform the functions of one or more of the node types given for ISPBX and ISCTX (see ETS 300 415 [85]).

protocol: Formal statement of the procedures that are adopted to ensure communication between two or more entities (see ITU-T Recommendation I.112-405 modified).

Protocol Data Unit (PDU): Unit of information consisting of protocol control information and possibly user data exchanged between peer protocol layer entities (see ITU-T Recommendation H.223, modified, ITU-T Recommendation Q.921, modified).

protocol layer: group of one or more functions within an upper and lower logical boundary within a protocol reference model [layer (N) has boundaries to layer (N + 1) and to layer (N - 1)] based on ITU-T Recommendation Q.9-2160 (definition of "layer")

protocol stack: Layered set of protocols which work together to provide a set of network functions (see IETF RFC 1983).

prune: Term used to denote the removal of a multicast subtree or leaf from an existing multicast distribution path tree. The operation thus removes (or reduces) a split point of the distribution path tree.

public: Attribute indicating that the application of the so-qualified item, e.g. a network, a unit of equipment, a service, is offered to the general public. This attribute does not indicate any aspects of ownership.

NOTE 76: This definition does not include legal or regulatory aspects (see ETS 300 415 [85]).

public network: Network which provides services to the general public (see ITU-T Recommendation I.570).

Q3-interface: TMN term indicating the interface between an OS-device and a Mediation Device or an OS-device and a NE-device (see TR 101 619, ITU-T Recommendation M.3010).

quality of service: Collective effect of service performances which determine the degree of satisfaction of a user of the service (see ITU-T Recommendation Y.101).

real-time flow: Flow that is serving a real-time demanding application, where the time position of each piece of information in the flow is significant (see EG 201 898).

real-time stream: Collection of real-time flows, e.g. a set of interleaved telephone calls transported in simplex mode.

NOTE 77: Real-time streams may recursively be multiplexed into higher-order real-time streams. E.g. SDH/SONET. It must be supported by a protocol that is synchronous or plesiochronous. There are two kinds of real-time streams:

- interactive real-time streams; and
- non-interactive real-time streams (see EG 201 898 [65]).

real-time transport connection: connection that in some way is capable of transporting traffic type Real-time flow

NOTE 78: The major requirement for this connection is to support timing integrity.

NOTE 79: There are two kinds of requirements: non-interactive real-time transport connection and interactive real-time transport connection (see EG 201 898 [65]).

reassembly: process in which a previously fragmented packet is reassembled before being passed to the next higher layer. See also: fragmentation (IETF RFC 1983, modified).

recipient network: Network where the ported number is located after being ported (see TR 101 619).

reference configuration: Combination of functional groups and reference points that shows possible network arrangements (see ITU-T Recommendation I.112-421).

reference point: Conceptual point at the conjunction of two non-overlapping functional groups (see ITU-T Recommendation I.112-420 and Y.101, modified).

regenerator section: Portion of a digital section. It is a maintenance sub-entity (see ITU-T Recommendation I.113-503).

regenerator section level: Extends between regenerator section endpoints (see ITU-T Recommendation I.113-514).

relationship: Complete set of information flows, where they exist, between two functional entities (see ITU-T Recommendation Q.65).

reliability: Probability that a product or system will perform as required for a specified period of time (see ITU-T Recommendation Y.101).

remote access, remote access connection element: Specific access connection element in which the digital section is not directly connected to the exchange termination but is connected through a multiplexer or concentrator (see ITU-T Recommendation I.112-433).

remote login: Operating on a remote computer, using a protocol over a computer network, as though locally attached. See also *Telnet* (IETF RFC 1983).

remote network: Remote network denotes every domain different from the originating network domain. That is, it denotes the same as home and terminating network. This term is used in cases that it makes no difference whether the network is in the terminating or home domain.

repeater: equipment essentially including one or several amplifiers and/or regenerators, and associated devices, inserted at a point in a transmission medium

NOTE 80: A repeater may operate in one or both directions of transmission (see ITU-T Recommendation G.601-1001 [6]).

representation medium: Type of the interchanged data, which defines the nature of the information as described by its coded form (see ITU-T Recommendation I.374).

reserved circuit service, reserved circuit telecommunication service: 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 81: The duration of communication, or the time of release of the communication path, may also be specified in advance by the user (see ITU-T Recommendation I.112-206 [16]).

resource: Manageable functional parts of telecommunication and support equipment which can be unambiguously defined (see ITU-T Recommendation M.60).

retrieval service: Interactive service which provides the capability of accessing information stored in data base centres This information will be send to the user on demand only. The information can be retrieved on an individual basis, i.e. the time at which an information sequence is to start is under control of the user (see ITU-T Recommendation I.113-117).

revenue accounting : Technical process of accounting the collected revenue for jointly service provision to a group of users and distribute it to the interworking and/or co-operating service/network providers (see TR 101 619).

roaming: Process of changing mobile station's attachment from one Location Area to another within one system or between different systems. Those different systems using the same technology or being based on multi-mode terminals relying on different technologies.

role: Role is a business activity that is intended to add value to certain goods/services (see ITU-T Recommendation Y.101).

root, root endpoint: endpoint of a point-to-multipoint connection to which all other endpoints (leaf endpoints) are connected

Round-Trip Time (RTT): Measure of the current delay on a network (see IETF RFC 1983).

route: path through one or more networks between endpoints

router: Device that is a gateway between two networks at OSI layer 3 and that relays and directs data packets through that internetwork. The most common form of router operates on IP packets.

NOTE 82: Internet usage: In the context of the Internet protocol suite, a networked computer that forwards Internet Protocol packets that are not addressed to the computer itself (see IETF RFC 2828 modified [76]).

routing: set of instructions on how to reach a destination

routing domain: Set of routers exchanging routing information within an administrative domain. The term routing domain is used in the OSI context. The IP world uses the term Autonomous System (see IETF RFC 1983 modified).

RSVP session: session (data flow) defined by destination address (unicast or multicast), optionally destination port number and the protocol ID of the transport-layer protocol

NOTE 83: For multicast communication a destination port is not mandatory. For unicast communication a destination port number should be specified in order to distinguish several unicast sessions to the same hosts (see TR 101 734 [53]).

segment: Segment is a well defined set of functions, part of one role, owned and operated by one player, part of one (and only one) service provisioning platform, and part of one domain (see ITU-T Recommendation Y.101).

selective broadcast signalling virtual channel: Virtual channel allocated to a service profile and used for broadcast signalling (see ITU-T Recommendation I.113-411).

self-delineating block: Block with the property that its endpoints can be identified by examining the block itself A defined pattern or flag at the beginning of each block might serve to demarcate the block (see ITU-T Recommendation I.113-302).

self-delineating labelled interface: Interface whose entire bit stream consists of a self delineating labelled multiplexing (see ITU-T Recommendation I.113-326).

server: Provider of resources (e.g. file server, name server, mail server, etc.), see IETF RFC 1983.

service telecommunication service: set of functions and capabilities offered by a service provider to its customers/users and designed to satisfy a specific telecommunication requirement

NOTE 84: In this definition, the "user" and "provider" may be a pair such as application/application, human/computer, customer/operator.

NOTE 85: Depending on the layers involved in the service two types can be distinguished:

- tele service: all 7 layers are involved;
- bearer service: only a transport up to layer 3 it provided;
- layer service: service offered by one layer in a layered protocol model to other layers (see ITU-T Recommendation I.112 (93), 201 [16]; ITU-T Recommendation Q.921 (97) [34]).

Service Access Point (SAP): Point at which an OSI layer provides services to the next higher layer (see ITU-T Recommendation J.1, ITU-T Recommendation Q.2931).

service attribute, telecommunication service attribute: specified characteristic of a telecommunication service

NOTE 86: The value(s) assigned to one or more service attributes may be used to distinguish that telecommunication service from others (see ITU-T Recommendation I.112-208 [16]).

service bit rate: Bit rate which is available to a user for the transfer of user information (see ITU-T Recommendation I.113-102).

service component: Services can be complex and can be made up of a number of service components which may also be optional (see ITU-T Recommendation Y.110 modified).

service control: Direction of the functions or processes used to provide a specific telecommunications service (see ITU-T Recommendation Q.1290).

service control element: Primitives needed to control a multimedia service, for example to start a call, to add or release a service component (see ITU-T Recommendation I.374).

Service Control Function (SCF): Application of service logic to control functional entities in providing Intelligent Network services (see ITU-T Recommendation Q.1290).

service control parameters: What a subscriber can control regarding a subscription to a telecommunication service The service control parameters are specified by the service customization parameters.

Service Control Point (SCP): Entity in the Intelligent Network that implements a service control function (see ITU-T Recommendation Q.1290).

service control service: service enabling a subscriber to change the behaviour of his/her subscription to a telecommunication service after the service provisioning

service creation: Activity whereby the capability to provide a supplementary service is brought into being from specification to development and verification (see ITU-T Recommendation Q.1290).

service creation deployment: Step which provides for the distribution of service creation components amongst physically disparate service creation environments. This step will also co-ordinate the distribution of completed service to multiple Service Management Functions (SMFs).

NOTE 87: This definition is subject to change.

Service Creation Environment Function (SCEF): set of functions that support the service creation process, the output of which includes both service logic programs and service data

NOTE 88: This definition is subject to change (see ITU-T Recommendation Q.1290 [35]).

Service Creation Environment Point (SCEP): Physical entity that implements the service creation environment function (see ITU-T Recommendation Q.1290).

service creation management: Activity which provides for the management and integrity of the service creation environment itself. This includes the maintenance and recovery of the service creation environments; the interaction of multiple service creation environments.

service creation platform: Set of service independent objects or functions which allow the creation of services in an Intelligent Network (see ITU-T Recommendation Q.1290).

service creation process: Conception, design and implementation of a capability to provide a service (see ITU-T Recommendation Q.1290).

service customization parameters: what a subscriber can specify regarding subscription to a telecommunication service, service control service and service monitoring service through negotiation with a service manager

NOTE 89: This definition is subject to change.

service customization service: This provides customization of the telecommunication service, the service control service and the service monitoring service, which are going to be provided to the subscriber after provisioning The service customization is based on subscriber's requirements during the service provisioning phase.

NOTE 90: The wording "service provisioning phase" depends on the outcome of service life cycle model work.

service data: Customer and/or network information required for the proper functioning of a service (see ITU-T Recommendation Q.1290).

Service Data Function (SDF): Set of functions that provides for the management of service data in accordance with a service data template (see ITU-T Recommendation Q.1290).

Service Data Point (SDP): Physical entity that implements a service data function (see ITU-T Recommendation Q.1290).

Service Data Template (SDT): specific logical structure for a collection of data objects, including allowable ranges for their values and other data consistency specifications, related to a specific service logic processing program

Service Data Unit (SDU): Unit of information that is transferred by a layer across a service access point, i.e. across the upper boundary of the layer (see ITU-T Recommendation Q.2931 (95), J.1; ITU-T Recommendation H.223 (96), modified).

service deployment: introduction of a service into the IN-structured network in a subscriber independent way

service development: Activity which transform a high level structured design into a detailed structured software design and subsequently develops the necessary software components, data definitions, etc. required to realize that design The major output of this activity is the developed service software and documentation which is ready for more rigorous service verification testing.

Service Feature (SF): Specific aspect of a telecommunication service that can also be used in conjunction with other telecommunication services/service features as part of a commercial offering. It is either a core part of a telecommunication service or an optional part offered as an enhancement to a telecommunication service.

service independence: Not necessarily specific to one service (see ITU-T Recommendation Q.1290).

service independent: Not dependent on the availability of other services; or having freedom to create any service desired (see ITU-T Recommendation Q.1290).

Service Independent building Block (SIB): reusable set of functional entity actions and (information flows) used to provide a service feature or a part of a service feature in an Intelligent Network

service instance: particular combination of service data and service logic that applies to only one service subscriber

service interaction: Interference of an entity with the intended and expected behaviour either of another entity, or of another instance of itself. In the case of services, interaction occurs either:

- when a service inhibits or subverts the expected behaviour of another service considered separately (or of another instance of the same service); or
- when the joint accurate execution of two services provokes a supplementary phenomenon which cannot happen during the processing of each of the services considered separately.

service internetworking: Situation where an individual service is used in a connection which exists partly inside one network and partly inside one or more other networks, or which, for certain operational aspects, routes through more than one network. There are more than one definition which could apply to the term concerned in other areas.

service interworking: joint execution of two or several services

service life cycle: Description of both stages and steps involved during the complete life of any service, in a service independent manner. It is considered the basis defining the possible behaviour of a service at all times, the stages identified covering all aspects of the service life, including its "death".

Service Logic (SL): Sequence of processes/functions used to provide a specific service (see ITU-T Recommendation Q.1290).

Service Logic Processing program (SLP): Software program containing service logic (see ITU-T Recommendation Q.1290).

Service Logic Processing program (use) Instance (SLPI): Invocation and application of a particular service logic program in providing a service or a service feature for a specific call/service attempt (see ITU-T Recommendation Q.1290).

service management: Service management is concerned with, and responsible for:

- subscriber facing;
- management of information relating to the contractual aspects of services that are being provided to subscribers or available to potential new subscribers, within the bounds specified by policies produced by the business management (layer);
- the proper operation of services;
- provisioning of information to the network management required for the proper planning, deployment, provisioning and operation of network resources necessary to support services;
- interaction with the business management (layer) for guidelines and policies; and
- interaction with service providers

NOTE 91: Business management (layer) functionality is not yet fully defined.

Service Management Agent Function (SMAF): functional interface between network operators and/or subscribers and network service management functional entities

NOTE 92: This definition applies only to Capability Set 1 (see ITU-T Recommendation Q.1290 [35]).

Service Management Function (SMF): set of processes that support the management of user and/or network information, including service data and service logic programs that are required for the proper operation of a service

NOTE 93: This definition applies only to Capability Set 1, replaced for future work by OSF (ITU-T Recommendation Q.1290 [35]).

Service Management Point (SMP): physical entity that implements a service management function

NOTE 94: This definition applies only to Capability Set 1, replaced for future work by OS (see ITU-T Recommendation Q.1290 [35]).

service management service: commercial offering to subscribers to satisfy their requirements to customize, to control and to monitor the telecommunication service for which it is provided

NOTE 95: Definition subject to change.

service monitoring data: Data a subscriber can monitor regarding his subscription to a telecommunication service. The service monitoring data are specified by service customization parameters.

NOTE 96: Definition subject to change.

service monitoring service: service which enables a subscriber to get information about the usage of a subscription to telecommunication service after the service provisioning

NOTE 97: Definition subject to change.

service node (SN): Network element that provides access to various switched and/or permanent telecommunication services. It contains one or several of the functions to provide a service (e.g. service control functions, service data functions, specialized resource functions, service switching and control). ITU-T Recommendation Y.101 modified, ITU-T Recommendation G.902 (95) modified.

Service Node Interface (SNI): interface between an access network and a service node

service plane: Plane in the Intelligent Network conceptual model that contains services, service entities and their relationships (see ITU-T Recommendation Q.1290).

service primitive; primitive: Abstract, implementation-independent interaction between a service user and the service provider (see ITU-T Recommendation Y.101).

service processing: Execution of service control and basic call processing functions to provide a service (see ITU-T Recommendation Q.1290).

service profile: collection of information maintained by the network characterizing a set of services provided by the network to a user

service profile management; UPT service profile management: ability to access and manipulate the UPT service profile

NOTE 98: UPT service profile management can be performed by the UPT user, UPT customer or UPT service provider (see ITU-T Recommendation I.114-108 [88]).

service provider (SP): Actor who provides services to its service subscribers on a contractual basis and who is responsible for the services offered. The same organization may act as a network operator and a service provider.

service provisioning: process covering all the activities which relate to creating service instances of a service type, preparing them for operation and eventually withdrawing them

service specification: transformation of the service requirements into a description agreed with the customer or the service provider, and definition of a high level design by means of refinement of detailed description requirements and functional analysis

service subscriber: Entity that contracts for services offered by service providers (see ITU-T Recommendation Q.1290).

Service Support Data (SSD): Set of service specific data parameters for Service Independent Building Blocks (see ITU-T Recommendation Q.1290).

Service Switching and Control Point (SSCP): Physical entity that contains the Service Control Function, Service Data Function and the Service Switching/Call Control Functions (see ITU-T Recommendation Q.1290).

Service Switching Function (SSF): Set of processes that provide for interaction between a call control function and a service control function (see ITU-T Recommendation Q.1290).

Service Switching Point (SSP): Physical entity that implements a service switching function (see ITU-T Recommendation Q.1290).

Service Trigger Information (STI): stimulus information for initiating an action. It may be distinguished between Trigger Detection Point (TDP) initiating the Service Logic (SL) and Event Detection Point (EDP) reporting an event to the running SL

service type: collection of functions and data distributed across network resources, providing the potential for the offering of a service instance to a customer

service user: See *user*.

service verification: Step in the service creation process where the developed service software (including supporting documentation) is rigorously tested to validate that the resulting service application completely satisfies the specification. The principal output of this step is thus the verified service software and supporting documentation required for deployment.

session: Period of communication between one user and another or other users, characterized by a clearly defined starting point and a clearly defined termination point (see TR 101 734 modified).

SIG: Signal representing an exchange of layer 1 information between line terminations of a digital transmission system for basic access (see ITU-T Recommendation I.112-508).

signal: Physical phenomenon one or more of whose characteristics may vary to represent information (see ITU-T Recommendation I.112-102).

signalling: Exchange of information specifically concerned with the establishment and control of connections, and with management, in a telecommunication network (see ITU-T Recommendation I.112-501).

Signalling Virtual Channel (SVC): Virtual channel for transporting signalling information (see ITU-T Recommendation I.113-409).

simple call: Two party call supported by one connection. The connection can be unidirectional or bi-directional.

simulation: imitation of the characteristics and appearance of a particular function

single point of control: Control relationship where the same phase or aspect of a call/service attempt is influenced by one and only one Service Control Function (see ITU-T Recommendation Q.1290).

single-ended service feature: Feature, e.g. call/service attempt manipulation, that applies to only one of the parties that may be involved on a call/service attempt (see ITU-T Recommendation Q.1290).

slot [DTM]: Time slot containing 64 bits of control or user data. The slot may also hold a special code for idle data, error slot and end of packet marker (see ES 201 803-1).

sound retrieval service: On-demand (user initiated) retrieval of music and other audio information (see ITU-T Recommendation I.113-118).

source traffic descriptor: Set of traffic parameters belonging to the ATM traffic descriptor, which is used during the connection set-up to capture the intrinsic traffic characteristics of the connection requested by the source (see ITU-T Recommendation I.113-709).

Specialized Resource Function (SRF): Set of functions that provide for the control and access to resources used in providing services in the Intelligent Network (see ITU-T Recommendation Q.1290).

speech digit signalling: Type of channel-associated signalling in which digit time-slots primarily used for the transmission of encoded speech are periodically used for signalling (see ITU-T Recommendation I.112-506).

split charging: Charging of the call types to be paid partly by the calling party and partly by the called party (see TR 101 619).

splitting point: connecting point splitting 1 to n connection links

static arming/disarming: enabling/disabling of a detection point, as directed by a Service Management Function, to cause a specified action by call/service processing whenever a specific point in call/service processing is encountered

NOTE 99: This definition applies only to Capability Set 1 (see ITU-T Recommendation Q.1290 [35]).

static data: Information that remains unchanged for the duration of a call or incident of use of a service (Usually controlled by a source external to the network), see ITU-T Recommendation Q.1290.

statistical; ATM statistical: Mode of the asynchronous transfer mode in which the information transfer capacity specified for a given service provided to the user throughout a call is expressed in terms of values of parameters such as mean, peak and standard deviation (see ITU-T Recommendation I.113-210).

statistical multiplexing: Multiplexing in which channels are established on a statistical basis, i.e., connections are made according to probability of need (see US Fed. Std. 1037C).

Statistical Time-Division Multiplexing (STDM): Time-division multiplexing in which connections to communication circuits are made on a statistical basis (see US Fed. Std. 1037C).

storage medium: Type of physical means to store data (see ITU-T Recommendation I.374).

stream: reoccurring transmission of data bound by some timing requirements

NOTE 100: Streams may be real-time or non-real-time. Streams are either sequential or parallel over some particular resource (see EG 201 898 [65]).

stream transport: function that enables transmission of streams through a connection

NOTE 101: Stream creation includes segmentation, adding of control data and other adaptations to the physical layer protocol (see EG 201 898 [65]).

streaming mode: Mode of service offered by the AAL type 3/4 and 5, where the AAL SDU is passed across the AAL interface in one or more AAL IDUs (see ITU-T Recommendation I.113-524).

Structured Data Transfer (SDT): supports the transmission of structured data (blocks of user data organized in octets) by using a pointer to the start of a block (see ETS 300 353).

Structured Generalized Markup Language (SGML): to be used for creation management, storage and delivery of information products

stub network: Stub network only carries packets to and from local hosts. Even if it has paths to more than one other network, it does not carry traffic for other networks (see IETF RFC 1983).

subnet: Portion of a network, which may be a physically independent network segment, which shares a network address with other portions of the network and is distinguished by a subnet number (see IETF RFC 1983, IETF FIY 4).

subnet address: Subnet portion of an IP address. In a subnetted network, the host portion of an IP address is split into a subnet portion and a host portion using an address (subnet) mask. See also: address mask, IP address, network address, host address (IETF RFC 1983).

subnet mask: See *address mask* (IETF RFC 1983).

subnet number: See *subnet address* (IETF RFC 1983).

sub-network: Topological component used to effect routing and management. It describes the potential for sub-network connections across the sub-network. It can be partitioned into interconnected sub-networks and links. Each sub-network in turn can be partitioned into smaller sub-networks and links and so on. A sub-network may be contained within one physical node (see ETS 300 469).

sub-network connection: Transport entity formed by a connection across a sub-network between connection points It can be configured as part of the trail management process (see ETS 300 469).

subscriber: User of a telecommunication service, normally based on a contract with the provider of a public service ITU-T Recommendation F.500 (92).

supplemented call: Basic call with added service features or capabilities (see ITU-T Recommendation Q.1290).

Sustainable Cell Rate (SCR): Upper limit on the long term average cell transfer rate of an ATM connection (ITU-T Recommendation Y.101).

switch node: Node that contains a switching function (see ES 201 803-1).

switched connection: connection that is established by means of switching

NOTE 102: A switched connection may be used to support both demand and reserved circuit services ITU-T Recommendation I.112-311 [16].

switched connection element, switched ISDN connection element: ISDN connection element that is established by means of switching (ITU-T Recommendation I.112-318).

Switched Multimegabit Data Service (SMDS): High-speed datagram-based public data network service developed by Bellcore originally expected to be widely used by telephone companies as the basis for their data networks. See also Metropolitan Area Network (IETF RFC 1983, IETF RFC 1208).

switching: Process of interconnecting transmission channels or telecommunication circuits in multiplex systems (ITU-T Recommendation I.112-113 modified).

synchronous: Signal is said to be synchronous with some other signal if you can predict an event on the first signal by looking at the second signal or vice versa. The signals are required to have the same frequency but may have some phase offset between them. The phase offset may vary over time (see: jitter). Phase variations below 0,1 UI is commonly accepted for synchronous signals (for larger phase variations see: mesochronous).

NOTE 103: Isochronous and anisochronous are characteristics of a signal, while synchronous and asynchronous are relationships.

Synchronous Digital Hierarchy (SDH): International standard for high-speed communications (ITU-T Recommendation G.707, ITU-T Recommendation G.803 modified).

Synchronous Optical NETwork (SONET): Standard for high-speed communications closely related to SDH ANSI T1.105.06-1996 (Revision of T1.106-1988).

synchronous time division multiplexing: Multiplexing techniques supporting the synchronous transfer mode (STM) (see ITU-T Recommendation I.113-203).

Synchronous Transfer Mode (STM): Transfer mode which offers periodically to each connection a fixed-length word (see ITU-T Recommendation I.113-205).

system protection: Action of minimizing the effect of a managed entity by blocking or changeover to other entities (as a result the failed entity is excluded from operation), see ITU-T Recommendation I.113-607.

T1: Colloquial term for a digital carrier facility used to transmit a DS-1 formatted digital signal at 1,544 megabits per second (see IETF RFC 1983 modified).

tariff: Charged price per usage element or per group of usage elements (see TR 101 619).

tariffing: Determination of the prices to be applied for services and service elements (see TR 101 619).

TCP/IP Protocol Suite: Transmission Control Protocol over Internet Protocol. This is a common shorthand which refers to the suite of transport and application protocols which runs over IP (see IETF RFC 1983).

teleaction service (telemetry service): type of telecommunication service that uses short messages, requiring a very low transmission rate, between the user and the network

NOTE 104: Examples of teleaction services are telealarm, telecommand, telealerting (see ITU-T Recommendation I.112-204).

telecommunication:

1) The exchange of information over a distance.

2) 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.

NOTE 105: In the context of communication via electromagnetical means (see ITU-T Recommendation G.701-1006 [7]).

telecommunication network: See *network*.

teleservice (telecommunication service): Type of telecommunication service that provide the complete capability, including terminal equipment functions, for communication between users according to protocols established by agreement between Administrations and/or RPAs (see ITU-T Recommendation I.112-203).

Terminal Equipment (TE): functional group on the user side of a user-network interface

NOTE 106: In ITU-T Recommendation I.430 [92] and I.431 [93], "TE" is used to indicate terminal terminating layer 1 aspects of TE1, TA and NT2 functional groups (see ITU-T Recommendation I.112-417 [16]).

terminal mobility: Ability of a terminal to access telecommunication services from different locations and while in motion, and the capability of the network to identify and locate that terminal (see ITU-T Recommendation I.114-101).

Terminal MoveAbility (TMA): Enables the terminal to retain its subscriber's unique identity when moved between access points. Access is not permitted while the terminal is being moved. The terminal registers with the network at each new location.

terminating network: network domain to where the call is connected

throughput: Number of data bits contained in a block (e.g. between the address field and the CRC field of the LAPD-based frames) successfully transferred in one direction across a section per unit time (see ITU-T Recommendation I.113-303).

Time To Live (TTL): Field in the protocol control information which indicates how long this protocol data unit (PDU) should be allowed to live before being discarded. In IP it is primarily used as a hop count (see IETF RFC 1983 modified).

timing integrity: characteristic of a connection A-B such that a bit received at node B was sent by node A not earlier than a defined time unit

NOTE 107: This relationship needs only to be maintained when data are in transit from A to B.

NOTE 108: This relationship, as it is defined above, does not preclude loss of bits in transit. It says that if a bit arrives at B, it is delayed within a certain limit. Thus if all bits shall arrive with a bounded delay, both content and timing integrity must be demanded (see EG 201 898 [65]).

token ring: Token ring is a type of LAN with nodes wired into a ring. each node constantly passes a control message (token) on to the next; whichever node has the token can send a message. Often, "Token Ring" is used to refer to the IEEE 802.5 token ring standard, which is the most common type of token ring (see IETF RFC 1983).

topology: physical arrangement of network nodes and media within an networking structure

traffic contract: Requested QOS for any given ATM connection and the maximum CDV tolerance allocated to the CEQ (see ITU-T Recommendation I.113-710).

traffic control: Set of actions taken by the network in all relevant network elements to avoid congestion conditions (see ITU-T Recommendation I.113-701).

traffic descriptor: set of values of traffic parameters for a given communication relation

traffic parameter: Specification of a particular traffic aspect. It may be qualitative or quantitative.

traffic routeing: establishment of a successful connection between any two exchanges or connectionless servers in the network

traffic shaping: mechanism that may alter the pattern of an ATM stream of cells on a VPC or a VCC to achieve desired modification of traffic characteristics, maintaining cell sequence integrity of the connection

traffic type: traffic for which the same requirements, and thus the same rules and functions apply for all flows of the type

NOTE 109: There are four traffic types: message, file, real-time non-interactive and real-time interactive (see EG 201 898 [65]).

trailer: Portion of a packet, following the actual data, containing control information (see *header*).

transceiver: Combination of transmitter and receiver (see IETF RFC 1983).

transfer mode: Mechanism for transmission, multiplexing and switching in a telecommunications network (see ITU-T Recommendation I.113-201 modified).

transit delay: Time difference between the instant at which the first bit of the address field of a frame crosses one designated boundary, and the instant at which the last bit of the closing flag of the frame crosses a second designated boundary (see ITU-T Recommendation I.113-801).

transit network: Transit network passes traffic between networks in addition to carrying traffic for its own hosts It must have paths to at least two other networks (see IETF RFC 1983).

transmission: action of conveying signals from one point to one or more points

NOTE 110: Transmission can be effected directly or indirectly, with or without intermediate storage.

NOTE 111: The use of the English word "transmission" in the sense of "emission" is deprecated (see ITU-T Recommendation I.112-106 [16]).

Transmission Control Protocol (TCP): Internet Standard transport layer protocol defined in IETF RFC 793. It is connection-oriented and stream-oriented, as opposed to UDP (see IETF RFC 1983).

transmission medium: Type of physical means to transmit data (see ITU-T Recommendation I.374).

transmission path level: Extends between network elements assembling/disassembling the payload of a transmission system and associating it with its OAM functions (see ITU-T Recommendation I.113-512).

transport protocol: Any transport service protocol running on ATM/AAL5 (see TR 101 694).

trigger: Stimulus for initiating an action (see ITU-T Recommendation Q.1290).

Trigger Detection Point (TDP): Detection point in basic call processing that is statically armed (see ITU-T Recommendation Q.1290).

tunnelling: Tunnelling refers to encapsulation of protocol A within protocol B, such that A treats B as if it was a data link layer. Tunnelling is used to transfer data between administrative domains which use a protocol that is not supported by the internet connecting those domains (see IETF RFC 1983).

twisted pair: Type of cable in which pairs of conductors are twisted together to produce certain electrical properties (see IETF RFC 1983).

two-party call: call in which exactly two users are involved

two-step activation: Type of activation which is initiated by one command to invoke a sequence of actions to activate the digital line transmission system and continued by a second command to invoke a sequence of actions to activate the user-network interface (see ITU-T Recommendation I.112-607).

unassigned cell (ATM layer): ATM layer cell which is not an assigned cell

unicast: qualifier indicating that an unidirectional communication configuration is involved

Uniform Resource Locators (URL): Compact (most of the time) string representation for a resource available on the Internet. URLs are primarily used to retrieve information using WWW. The syntax and semantics for URLs are defined in IETF RFC 1738. See also World Wide Web. (IETF RFC 1983, IETF RFC 1738).

Unit Interval: Nominal difference in time between consecutive significant instants of a signal. One Unit Interval is one cycle time of the clock signal. (See also synchronous, isochronous, asynchronous, anisochronous), ITU-T Recommendation G.701 modified.

Universal Personal Telecommunication (UPT) service: service which provides personal mobility and UPT service profile management

NOTE 112: This involves the network capability of uniquely identifying a UPT user by means of a UPT number.

NOTE 113: The general principles of universal personal telecommunication are given in ITU-T Recommendation F.850 [94] (see ITU-T Recommendation I.114-103 [17]).

Universal Personal Telecommunication Number (UPTN): number that uniquely identifies a UPT number and is used to place, or forward, a call to that user

NOTE 114: A user may have more than one UPT number (for example a business UPT number for business calls and a private UPT number for private calls). In that case, from a network point of view, each UPT number is considered to identify a distinct UPT user, even if they all happens to identify the same person or entity (see ITU-T Recommendation I.114-106 [88]).

upstream direction:

a) in a bi-directional configuration: direction from the user towards the network;

b) in unidirectional configurations: the direction of the traffic towards the source.

UPT customer (UPT subscriber): person who, or entity which, obtains a UPT service from a UPT service provider on behalf of one or more UPT users and is responsible for payment of the charges due to that service provider

NOTE 115: The general terms "customer" is defined in ITU-T Recommendation D.000 [2] (see ITU-T Recommendation I.114-104 [88]).

UPT routing address: Number used by the network to direct a call according to the user's UPT profile (see ITU-T Recommendation I.114-110).

UPT user: Person who, or entity which, has access to universal personal telecommunication (UPT) services and has been assigned a UPT number (see ITU-T Recommendation I.114 modified).

usage element: Feature, service or function associated with a telecommunication usage and suitable for payment (see TR 101 619).

usage metering: Registration of the telecommunication resources or services used by a served user (see TR 101 619).

usage metering data: Data, which represents usage of telecommunication resources or services by a served user (see TR 101 619).

usage metering record: Data item for a specific user containing information of resource or service usage (see TR 101 619).

Usage Parameter Control (UPC): Set of actions taken by the network to monitor and control traffic at the User Network Interface, to protect network resources from malicious as well as unintentional misbehaviour by detecting violations of negotiated parameters and taking appropriate actions (see ITU-T Recommendation I.113-705).

user: Entity which actually uses a service (see TR 101 734).

user access, user-network access: Means by which a user is connected to a telecommunication network in order to use the services and/or facilities of that network (see ITU-T Recommendation I.112-402).

User Datagram Protocol (UDP): Internet Standard transport layer protocol defined in IETF RFC 768
It is a connectionless protocol which adds a level of reliability and multiplexing to IP (see IETF RFC 1983, IETF RFC 768).

user determined user busy: Refers to the case where the user chooses to indicate the busy condition.
Busy conditions are described in ITU-T Recommendation I.221 (see ETS 300 780).

User Interface Functions (UIF): Functions in an access network, interacting with the user equipment, and providing a RF communication interface with the Head End it is connected to EG 201 400.

User Network Interface (UNI): interface at which a customer equipment is connected to a network

user, user of a telecommunication network: Person or machine delegated by a customer to use the service facilities of a telecommunication network (see ITU-T Recommendation I.112-401).

user-network interface only deactivation: Deactivation of the user-network interface which does not deactivate the digital line transmission system (see ITU-T Recommendation I.112-609).

user-user protocol: Protocol that is adopted between two or more users in order to ensure communication between them (see ITU-T Recommendation I.112-407).

valid cell: Cell where the header is declared by the header error control process to be free of errors (see ITU-T Recommendation I.113-318).

Variable Bit Rate (VBR) service: Type of telecommunication service characterized by a service bit rate specified by statistically expressed parameters which allow the bit rate to vary within defined limits (see ITU-T Recommendation I.113-104).

VC connection: Concatenation of virtual channel links that extends between two points where the adaptation layer is accessed (see ITU-T Recommendation I.113-403).

VC cross connect: Network element which connects VC links; it terminate VPCs and translates VCI values and is directed by Management Plane functions (see ITU-T Recommendation I.113-519).

VC level: Extends between network elements performing virtual channel connection termination functions, and it is shown extending through one or more virtual path connections (see ITU-T Recommendation I.113-516).

VC link: Mean of unidirectional transport of ATM cells between a point where a virtual channel identifier value is assigned and the point where that value is translated or removed (see ITU-T Recommendation I.113-402).

VC switch: Network element which connects VC links; it terminates VPCs and it translates VCI values. It is directed by control plane functions (see ITU-T Recommendation I.113-520).

vendor or implementation independent: Characteristic that products from different vendors are able to work together in the same environment, and/or, physical units serving as the same functional entity(ies) produced by different vendors can be used interchangeably (see ITU-T Recommendation Q.1290).

Very high speed Digital Subscriber Line (VDSL): Modem technology that enables/converts twisted-pair telephone lines to be used as access paths for multimedia and high-speed data communications. VDSL uses higher bit rates than ADSL. These bit rates may or may not be different in both directions (ITU-T Recommendation Y.101).

video: Electronic image with the capability to reproduce movement (see ITU-T Recommendation Y.101).

videomessaging: Messaging service for the transfer of moving pictures with or without other information (see ITU-T Recommendation I.113-116).

Virtual Channel (VC): Concept used to describe unidirectional transport of ATM cells associated by a common unique identifier value (see ITU-T Recommendation I.113-401).

Virtual Channel Identifier (VCI): Identifies a particular VC link for a given Virtual Path Connection (VPC) (see ITU-T Recommendation I.150).

virtual circuit: virtual circuit is a logically emulated circuit

NOTE 116: The term "virtual" indicates that the connection is of an abstract nature (see EG 201 898 [65]).

Virtual Path (VP): Concept used to describe unidirectional transport of ATM cells belonging to virtual channels that are associated by a common identifier value (see ITU-T Recommendation I.113-404).

Virtual Path Connection (VPC): Concatenation of virtual path links that extends between the point where the virtual channel identifier values are assigned and the point where those values are translated or removed (see ITU-T Recommendation I.113-406).

Virtual Path Identifier (VPI): Identifies a group of VC links, at a given reference point, that share the same VPC (see ITU-T Recommendation I.150).

Virtual Private Network (VPN): that part of a CTN that uses shared switched network infrastructures provided by one or more third parties

NOTE 117: The functionality provided by a VPN includes transit-PTNX functionality and/or end-PTNX functionality.

NOTE 118: ISCTX and ICN are examples of VPN components (see ETS 300 415 [85]).

VP cross connect: Network element which connects VP links; it translates VPI values and is directed by management plane function (see ITU-T Recommendation I.113-517).

VP level: Extends between network elements performing virtual path connection termination functions, and it is shown extending through one or more virtual path connections (see ITU-T Recommendation I.113-515).

VP link: Group of virtual channel links, identified by a common value of the virtual path identifier, between the point where the VPI value is assigned and the point where the VPI value is translated or removed (see ITU-T Recommendation I.113).

VP switch: Network element which connects VP links; it translate VPI values and is directed by Control Plane functions (see ITU-T Recommendation I.113-518).

VP-VC cross connect: Network element that may act as VC cross-connect and/or and VP cross-connect (see ITU-T Recommendation I.113-521).

VP-VC switch: Network element that may act as VC switch and/or VP switch (see ITU-T Recommendation I.113-522).

video server: Physical entity that stores video contents for retrieval by users (see ITU-T Recommendation Y.101).

wander: Long-term non-cumulative variations of the significant instants of a digital signal from their ideal positions in time (see ITU-T Recommendation G.701- 2025).

Wide Area Network (WAN): Network, usually constructed with serial lines, which covers a large geographic area See also: Local Area Network, Metropolitan Area Network (see ETF RFC 1983).

work station [TMN]: physical entity that implements the work station function block

Work Station Function block (WSF): WSF provides the means to interpret TMN information for the management information user. The WSF includes support for interfacing to a human user (see ITU-T Recommendation M.60).

World Wide Web (WWW, W3): Internet and hypertext-based, distributed information system/service created by researchers at CERN in Switzerland. Users may create, edit or browse hypertext documents. The clients and servers are freely available (see IETF RFC 1983).

X-interface: TMN term indicating the interface between OS-devices (see TR 101 619).

zone: logical group of network devices

1) collection of terminals, Gateways, and Multipoint Control Units managed by a single Gatekeeper. A Zone may be independent of network topology and may be comprised of multiple network segments which are connected using routes or other devices (see IETF RFC 1983 [74]).

2) ITU-T Recommendation H.323 (99), 3.49 modified [15].

5 Abbreviations and acronyms

AAL	ATM Adaptation Layer
AAL-CU	AAL Composite User (obsolete, now = AAL2)
AAL-IDU	AAL Interface Data Unit
AAL-PCI	AAL Protocol Control Information
AAL-SDU	AAL Service Data Unit
AATF	ATM Access Termination Functions
ABR	Available Bit Rate
ABT	ATM Block Transfer
ACE	Access Connection Element
ACF	ATM Control Functions
ACTS	Advanced Communications Technologies and Services
AD	ADjunct
ADSL	Asymmetric Digital Subscriber Line
AE	Application Entity
AFI	Authority and Format Identifier
AIS	Alarm Indication Signal
AL	Access Link
AL	ALignment
AMF	ATM Mapping Functions
AMIMF	ATM based MSS Interconnection Management Functions
AN	Access Network
ANI	Access Network Interface
ANS	ATM Name Server
ANTF	ATM Network Termination Functions
AOC	Advice Of Charge
AP	Access point (to the access network)
API	Application Programming Interface
APS	Automatic Protection Switching
ARP	Address Resolution Protocol
ASE	Application Service Element
ASP	Applications Support Platform
ATAF	ATM Transit Access Functions
ATC	ATM Transfer Capability
ATD	Asynchronous Time Division
ATF	Access Termination Functions

ATM	Asynchronous Transfer Mode
ATMNE	ATM Network Element
ATM-SDU	ATM Service Data Unit
AU	Administrative Unit
AUU	ATM-layer-User-to-ATM-layer-User
BA	Basic rate Access (ISDN)
BAsize	Buffer Allocation size
B-BBC	Broadband Bearer Control Channel
BC	Bearer Control
BCD	Binary Coded Decimal
BCDBS	Broadband Connectionless Data Bearer Service
BCOBS	Broadband Connection Oriented Bearer Service
BCP	Basic Call Process
BCSM	Basic Call State Model
BER	Bit Error Ratio
BGP4	Border Gateway Protocol 4
BIP	Bit Interleaved Parity
B-ISDN	Broadband Integrated Services Digital Network
B-ISPBX	Private Branch EXchange for B-ISDN
B-ISUP	B-ISDN User Part
BM	Business Management
B-NT	Network Termination for B-ISDN
B-NT1	Network Termination 1 for B-ISDN
B-NT2	Network Termination 2 for B-ISDN
BOM	Beginning Of Message
BPCR	Backward Peak Cell Rate
BR	Billing Report
BS	Burst Scale
B-TA	Terminal Adaptor for B-ISDN
Btag	Beginning Tag
B-TE	Terminal Equipment for B-ISDN0
BVPS	Broadband Virtual Path Service (ETS 300 455 [95])
CA	Customer Access
CAC	Connection Admission Control
CAD	Computer Aided Design
CAM	Computer Aided Manufacturing
CAMC	Customer Access Maintenance Centre
CASE	Core ATM Switching Equipment
CATV	Community Antenna TeleVision
CBDS	Connectionless Broadband Data Service
CBR	Constant Bit Rate
CC	Call Control
CC	Charging Centre
CC	Country Code
CC	Cross Connect
CCAF	Call Control Access (agent) Function (ITU-T Recommendation I.114 [88])
CCAF	Call Control Agent Function
CCF	Call Control Function
CCF	Connection (call) Control Function (ITU-T Recommendation I.114 [88])
CCITT	Comité Consultatif International Telegraphique et Telephonique
CDR	Call Detail Record
CDV	Cell Delay Variation
CDVT	Cell Delay Variation Tolerance
CE	Congestion Experienced
CE	Connection Element
CE	Connection Endpoint
CEC	Cell Error Count
CEI	Connection Endpoint Identifier
CEP	Connection End Point
CEQ	Customer EQuipment
CER	Cell Error Rate
CES	Circuit Emulation Service

CES	Connection Endpoint Suffix
CF	Connection Functions
CF	Core Function
CI	Customer Installation
CIB	CRC Indication Bit
CID	Call Instance Data
CIF	Common Intermediate Format
CIME	Customer Installation Maintenance Entities
CL	ConnectionLess
CLAI	CL Access Interface
CLATF	CL Access Termination Functions
CLCP	CL Convergence Protocol
CLHF	CL Handling Functions
CLL	ConnectionLess Layer
CLLR&R	ConnectionLess Layer Routing & Relaying
CLMF	CL Mapping Functions
CLNAP	CL Network Access Protocol
CLNI	CL Network Interface
CLNIP	CL Network Interface Protocol
CLNTF	CL Network Termination Functions
CLP	Cell Loss Priority
CLR	Cell Loss Ratio
CLS	Connectionless Server
CLSF	Connectionless Service Function
CM	Call Model
CME	Connection Management Entity
CMI	Coded Mark Inversion
CMR	Cell Misinsertion Ratio
C-n	Container - n
CN	Customer Network
CNIS	Platforms supporting provision of Communication and Networking of Information Services
CO	Connection Oriented
COH	Connection Overhead
COM	Continuation of Message
CON	Concentrator
CONS	Connection Oriented Network Service
COTS	Connection Oriented Transport Service
CP	Control Plane
CP-AAL	Common Part of AAL type
CPCS	Common Part Convergence Sublayer
CPCS-PDU	CPCS Protocol Data Unit
CPCS-SDU	CPCS Service Data Unit
CPCS-UU	Common Part Convergence Sublayer User-User
CPE	Customer Premises Equipment
CPI	Common Part Indicator
CPN	Customer Premises Network
CRC	Cyclic Redundancy Check
CREn	Cell transfer Reference Event n
CRF	Connection Related Function
CRF(VC)	Virtual Channel Connection Related Function
CRF(VP)	Virtual Path Connection Related Function
CS	Capability Set
CS	Cell Scale
CS	Convergence Sublayer
CS1	Capability Set 1 (IN)
CSCW	Computer Supported Cooperative Work
CSDN	Circuit Switched Data Network
CSI	Convergence Sublayer Indication
CSM	Call Segment Model
CSMA/CD	Carrier Sense Multiple Access with Collission Detection
CS-PDU	Convergence Sublayer Protocol Data Unit
CSTA	Computer Supported Telecommunications Applications

CSU	Channel Service Unit
CTD	Cell Transfer Delay
CTF	Control Functions
CTM	Cordless Terminal Mobility
CTP	Connection Termination Point
CUG	Closed User Group
DA	Destination Address
DAB	Digital Audio Broadcast
DASH	Description of Architecture and Services Harmonization
DAVIC	Digital AudioVisual Council
DBR	Deterministic Bit Rate
DBS	Direct Broadcast Satellite
DCE	Data Circuit-terminating Equipment
DFP	Distributed Functional Plane
DIFFSERV	DIFFerentiated SERVices
DIPSS	Platforms supporting provision of Distributed Information Processing & Storage Services
DIS	Draft International Standard
DLCI	Data Link Connection Identifier
DNIC	Data Network Identification Code
DNS	Domain Name Server
DNS	Domain Name System (Internet)
DP	Detection Point
DPL	Distributed Primary Link
DPT	Dynamic Packet Transport
DQDB	Distributed Queue Dual Bus
DS	Differentiated Services (field)
DS	Digital Section
DSAP	Destination Service Access Point
DSL	Distributed Service Logic
DSM-CC	Digital Storage Media - Command and Control
DSP	Domain Specific Part
DSS	Distributed Sample Scrambler
DSS1	Digital Subscriber Signalling System No. 1
DSS2	Digital Signalling System No. 2
DSU	Data Service Unit
DTE	Data Terminal Equipment
DTM	Dynamic synchronous Transfer Mode
DTMF	Dual Tone Multi-Frequency
DVB	Digital Video Broadcast
DWDM	Dense WDM
EBCN	Explicit Backward Congestion Notification
EBTN	European Backbone Telecommunication Network
EC	Error Correction
ECTRA	European Committee for Telecommunications Regulatory Affairs
ED	Error Detection
EDC	Error Detection Code
EDP	Event Detection Point
EFCI	Explicit Forward Connection Indication
EFCN	Explicit Forward Congestion Notification
EIF	European Infrastructure Forum
EII	European Information Infrastructure
EM	Element Management
EoM	End of Message
EPD	Early Packet Discards
EPII	European Project Information Infrastructure
ESP	End of SPeaker identification
ET	Exchange Termination
ETag	End Tag
ETR	ETSI Technical Report
ETS	European Telecommunication Standard
EURESCOM	European Institute for Research and Strategic Studies in Europe
F1 ... F5	OAM flows 1 ... 5

FAM	Functional Architecture Model
FCS	Frame Check Sequence
FDDI	Fibre Distributed Data Interface
FDM	Frequency Division Multiplex
FE	Function Element
FE	Functional Entity
FEA	Functional Entity Action
FEBE	Far End Block Error
FEC	Forward Error Correction
FERF	Far End Receive Failure
FIFO	First In First Out
FITL	Fiber In The Loop
FM	Fault Management
FMBS	Frame Mode Bearer Service
FPCR	Forward Peak Cell Rate
FPLMTS	Future Publis Land Mobile Telecommunication Systems (I.114)
FR	Frame Relay
FRM	Fast Resource Management
FRP	Fast Reservation Protocol
FTAM	File Transfer Access and Management
FTP	File Transfer Protocol, (Internet)
GA	Group Address
GAHF	Group Address Handling Functions
GAP	Group Addressed PDU
GBE	Gigabit Ethernet
GBSVC	General Broadcast Signalling Virtual Channel
GCRA	Generic Cell Rate monitoring Algorithm
GCS	Platforms supporting provision of Generic Communications Services
GDMO	Guidelines for the Definition of Managed Objects
GFC	Generic Flow Control
GFP	Global Functional Plane
GII	Global Information Infrastructure
GME	Global Management Entity
GMM	Global Multimedia Mobility
GONOW	Globalising and Opening Networks; Overview and Workplan
GSL	Global Service Logic
GSM	Global System for Mobile Communications
GVPI	Global Virtual Path Identifier (JAMES project)
HB	Hot Billing
HDLC	High level Data Link Control
HDSL	High bit rate Digital Subscriber Line
HDTV	High Definition TeleVision
HE	Head End
HE	Header Extension
HEC	Header Error Control
HEL	Header Extension Length
HFC	Hybrid Fiber Coax
HIC	Header Integrity Check
HLF	Higher Layer Functions
HLPI	Higher Layer Protocol Identifier
HLR	Home Location Register (GSM)
HOL	Head Of Line
HTML	HyperText Markup Language (Internet)
HTTP	HyperText Transport Protocol (Internet)
IAHC	International Ad Hoc Committee (Internet)
IBC	Integrated Broadband Communication
IBT	Intrinsic Burst Tolerance
ICI	Inter Carrier Interface
ICI	Interface Control Information
ICIP	Inter-Carrier Interface Protocol
ICS	Implementation Conformance Statement
ID	IDentification

IDI	Initial Domain Identifier
IDP	Initial Domain Part
IDP	Internet Datagram Protocol
IDU	Interface Data Unit
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronic Engineers
IETF	Internet Engineering Task Force (Internet)
ILMI	Interim Local Management Interface (ATM Forum)
IMAI	Interworking MAN ATM Interface
IMF	Interworking Management Functions
IMPDU	Initial MAC Protocol Data Unit
IMT2000	International Mobile Telecommunications in the year 2000
IN	Intelligent Network
INAP	Intelligent Network Application Protocol (IN)
INCM	Intelligent Network Conceptual Model
INDB	Intelligent Network Data Base
INDBMS	IN Data Base Management System
INFA	Intelligent Network Functional Architecture
INI	Inter Network Interface
IntServ	Integrated Services
IP	Intelligent Peripheral
IP	Internet Protocol
IPL	Primary Link for Interactive services
IPX	Internetwork Packet EXchange
IRP	Internal Reference Point
IS	International Standard
ISCTX	Integrated Services CenTreX
ISDN	Integrated Services Digital Network
ISE	Integrated Switching Element (JAMES project)
ISO	International Organization for Standardization
ISP	Information Service Provision
ISP	Internet Service Provider
ISPBX	Integrated Services Private Branch eXchange
ISUP	ISDN Signalling User Part
ISUP	ISDN User Part
IT	Information Type
ITP	International Transit Portion (JAMES project)
ITU	International Telecommunication Union
ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
ITU-TSS	International Telecommunication Union- Telecommunication Standardization Sector (old term)
IWF	InterWorking Function
IWU	InterWorking Unit
JAMES	Joint ATM Experiment on european Services
JPEG	Joint Picture Experts Group
LAN	Local Area Network
LAPD	Link Access Procedure on the D-channel
LCD	Loss of Cell Delineation
LE	Layer Entity
LE	Local Exchange
LEX	Local EXchange
LFC	Local Functions Capabilities
LI	Length Indicator
LI	Link Identifier
LIS	Logical IP Subnetwork (IETF RFC 1577 [96])
LLC	Logical Link Control
LLC	Low Layer Compatibility
LLID	Loopback Localization IDentifier field (OAM working group)
LME	Layer Management Entity
LOC	Loss Of Cell delineation
LOC	Loss Of Continuity check
LOM	Loss Of Management
LOP	Loss Of Pointer

LOS	Loss Of Signal
LSB	Least Significant Bit
LSI	Large Scale Integration
LT	Line Termination
LTA	Long Term IN Architecture
MA	Medium Adaptor
MAC	Media Access Control
MAC	Multiplexed Analogue Components (a TV standard)
MAI	MSS ATM Interface
MAN	Metropolitan Area Network
MBS	Maximum Burst Size (ITU-T Recommendation I.371 [23])
MBS	Mobile Broadband System
MBS	Monitoring Block Size
MCD	Maintenance Cell Description
MCU	Multipoint Control Unit
ME	Mapping Entity
MIB	Management Information Base
MID	Multiplexing IDentification
MIM	Management Information Model
MIME	Multipurpose Internet Mail Extensions, (Internet)
MIN	Multistage Interconnection Networks (JAMES project)
MIR	Maximum Information Rate
MMC	MSS Management Centre
MMF	MSS Management Functions
MoU	Memorandum of Understanding
MP	Measurement Point
MPEG	Moving Pictures Expert Group
MPI	Measurement Point associated with international Interface
MPLS	Multi Protocol Label Switching
MPOA	MultiProtocol over ATM
MRVT	MTP Routing Verification Test
MS	Multiplex Section
MSB	Most Significant Bit
MSC	Mobile-services Switching Center (GSM, I.114)
MSN	Monitoring cell Sequence Number
MSP	Maintenance Service Provider
MSP	Mini cell Start Pointer
MSS	MAN Switching System
MSVC	Meta Signalling Virtual Channel
MTP	Message Transfer Part
MUX	MUltipleXer
NA	Network Aspects
NAN	National Access Network (JAMES project)
NAP	Network Access Point
NAS	Network Access Server
NDC	National Destination Code
NE	Network Element
NEF	Network Element Function
NFA	Network Functional Architecture
NHRP	NBMA next Hop Resolution Protocol
NIC	Number of Included Cells
N-ISDN	Narrowband Integrated Services Digital Network
NM	Network Management
NMB	Number of Monitored Blocks
NMC	Network Management Centre
NNI	Network Node Interface
NNI	Network to Network Interface
NO	Network Operator
NOD	Network Operations Domain
NP	Network Performance
NP	Network Provider
NPC	Network Parameter Control

NRA	National Regulatory Authority
NRM	Network Resource Management
NRTS	Non Real-Time Stream
NSAP	Network Service Access Point
NSN	National Significant Number
NT	Network Termination
NTF	Network Termination Functions
NTN	Network Terminal Number
NTP	Network Termination Point
NTSC	National Television System Committee modulation system. (a TV standard)
NTTP	Network Termination Test Point
NVOD	Near Video On Demand
OAM	Operation Administration and Maintenance
OAM	Operation And Maintenance
OAMC	Operation And Maintenance Centre
OAN	Optical Access Network
OFDM	Optical Frequency Division Multiplex
OMAP	Operations and Maintenance Application Part
ONP	Open Network Provision
OS	Operating System
OSF	Operating System Functions
OSI	Open Systems Interconnection
OSPF	Open Shortest Path First
OSS	Operation Support System (ITU-T Recommendation I.114)
OTDM	Optical Time Division Multiplex
OUI	Organizationally Unique Identifier
PAC	ETSI Programme Advisory Committee
PAD	PADding
PAL	Phase Alternating Line modulation system. (a TV standard)
PAS	Publicly Available Specifications
PC	Personal Computer
PC	Priority Control
PCF	Protocol Conversion Functions
PCI	Protocol Control Information
PCM	Pulse Code Modulation
PCR	Peak Cell Rate
PCS	Personal Communication Services
PDH	Plesiochronous Digital Hierarchy
PDN	Packet Data Network
PDU	Protocol Data Unit
PEI	Peak Emission Interval
PEN	Pan European Network
PH	Packet Handler
PHB	Per Hop Behaviours
PHY	PHYsical layer
PI	Price Information
PI	Protocol Identifier
PIC	Point In Call
PICS	Protocol Implementation Conformance Statement
PID	Protocol IDentifier
PL	Pad Length
PL	Physical Layer
PLK	Primary LinK
PLMN	Public Land Mobile Network (ITU-T Recommendation I.114 [88])
PL-OAM	Physical Layer Operation And Maintenance (cell)
PM	Performance Management
PM	Performance Monitoring
PM	Personal Mobility
PM	Physical Medium
PMD	Physical Media Dependent
P-NNI	Private Network to Network Interface
PNO	Public Network Operator

POH	Path OverHead
POI	Point Of Initiation
PON	Passive Optical Network
POP	Point of Presence
POP3	Post Office Protocol, Version 3
POR	Point Of Return
POTS	Plain Old Telephone Service
POTS	Plain Old Telephony Service
PPD	Partial Packet Discard
PPP	Point to Point Protocol (Internet)
PPTU	PDU Per Time Unit
PRA	Primary Rate Access (ISDN)
PRM	Protocol Reference Model
PSDN	Packet Switched Data Network
PSN	Physical layer OAM Sequence Number
PSPDN	Packet Switched Public Data Network
PSS1	Private Signalling System No. 1
PSTN	Public Switched Telephone Network
PSVC	Point-to-point Signalling Virtual Channel
PT	Payload Type
PTI	Payload Type Identifier
PTN	Public Telephone Network
PTNX	Private Telecommunication Network eXchange
PTO	Public Telecommunication Operator
PTR	PoinTeR
PVC	Permanent Virtual Channel
PVC	Permanent Virtual Circuit
QAM	Quadrature Amplitude Modulation
QCIF	Quarter Common Intermediate Format
QoS	Quality of Service
QSIG	Q interface SIGnalling protocol
Q-type	Q Interface type
R	Router
R2	Regional Signalling System No.2
RACE	Research and development in Advanced Communications technologies in Europe
RAI	Remote Alarm Indication
RC	Resource Control
RDI	Remote Defect Indicator
REM	Rate Envelope Multiplexing
RES	REServed (field)
RF	Radio Frequency
RFC	Request For Comments (Internet)
RFH	Remote Frame Handler
RG	ReGenerator
RLP	Radio Link Protocol
RM	Resource Management (cell)
RPOA	Recognized Private Operating Agency
RPOA	Regulated Private Operating Agency
RS	Regenerator Section
RSC	Reed-Solomon burst error correcting Code
RSE	Reed-Solomon Erasure code
RSVP	Resource ReserVation Protocol
RTFM	Real Time Flow Measurement
RTMC	Real Time Management Co-ordination
RTP	Real-time Transport Protocol
RTS	Real-Time Stream
RTS	Residual Time Stamp
RU	Remote Unit
SA	Source Address
SAAL	Signalling AAL
SAP	Service Access Point
SAPI	Service Access Point Identifier

SAR	Segmentation And Reassembly (sublayer)
SAR-PDU	SAR Protocol Data Unit
SAR-SDU	SAR Service Data Unit
SBM	Shared Buffer Memory
SBR	Statistical Bit Rate
SBSVC	Selective Broadcast Signalling Virtual Channel
SC	Sequence Count
SC	Service Component
SCC	Service Control Customization
SCCP	Signalling Connection Control Part
SCE	Service Control Element
SCE	Service Creation Environment
SCEAF	Service Creation Environment-Access Function
SCEF	Service Creation Environment Function (I.114)
SCEP	Service Creation Environment Point
SCF	Service Control Functions
SCP	Service Control Point (IN)
SCR	SustainableCellRate
SDF	Service Data Function (I.114)
SDH	Synchronous Digital Hierarchy
SDL	Simple Data Link
SDL	Specification and Description Language
SDP	Service Data Point
SDR	Service Detailed Record (Internet)
SDT	Service Data Template
SDT	Structured Data Transfer
SDU	Service Data Unit
SECAM	Sequentielle Couleur Avec Mémoire (a TV standard)
SECB	Severely Errored Cell Block
SECBR	Severely Errored Cell Block Rate
SES	Severely Errored Second
SF	Service Feature
SFET	Synchronous Frequency Encoding Technique
SGML	Standard Generalized Markup Language
SIB	Service Independent building Block
SIR	Sustained Information Rate
SL	Service Logic
SLA	Service Level Agreement
SLCP	Service Logic Control Program
SLE	Sub-Layer Entity
SLIP	Serial Line Interface Protocol (Internet)
SLMP	Service Logic Management Program
SLP	Service Logic Processing program
SLP	Submitted Loss Priority
SLPI	Service Logic Processing program Instance
SM	Service Management
SM	Service Multiplexers
SMAF	Service Management Access (agent) Function (ITU-T Recommendation I.114 [88])
SMAF	Service Management Agent Function
SMC	Service Monitoring Customization
SMDS	Switched Multimegabit Data Service
SMF	Service Management Function (ITU-T Recommendation I.114 [88])
SMP	Service Management Point
SMS	Service Management System
SMTP	Simple Mail Transfer Protocol (Internet)
SN	Sequence Number
SN	Service Node
SN	Subscriber Number
SNAP	Sub Network Access Protocol
SNI	Service Node Interface
SNMP	Simple Network Management Protocol (Internet)
SNP	Sequence Number Protection

SNPA	Sub-Network Point of Attachment
SOH	Section OverHead
SONET	Synchronous Optical NETwork
SP	Service Provider
S-PCN	Satellite - Personal Communications Network
SPF	Service Port Function
SPL	Service Provider Link
SPN	Subscriber Premises Network
SPT	Switch Point Termination
SRC	Strategic Review Committee (ETSI)
SRF	Specialized Resource Function
SRL	Simple Ruleset Language
SRP	Spatial Reuse Protocol
SRTS	Synchronous Residual Time Stamp
SS7	Signalling System number 7
SSAP	Source Service Access Point
SSCF	Service Specific Coordination Function
SSCOP	Service Specific Connection Oriented Protocol
SSCP	Service Switching and Control Point
SSCS	Service Specific Convergence Sublayer
SSCS	Service Switching Control System
SSCS-PDU	SSCS Protocol Data Unit
SSD	Service Support Data
SSF	Service Switching Function (ITU-T Recommendation I.114 [88])
SSM	Single Segment Message
SSN	Switching or Signalling Node
SSP	Service Switch Point (IN)
SSP	Service Switching Point
ST	Segment Type
STB	Set-Top Box
STC	Sub Technical Committee
STI	Service Trigger Information
STM	Synchronous Transfer Mode
STM-n	Synchronous Transport Module-n
SVC	Signalling Virtual Channel
SVC	Switched Virtual Channel
SVC	Switched Virtual Circuit
SW	Switching System
T&CP	Transport & Control Platform
TA	Terminal Adaptor
TA	Terminal Adaptor
TAPI	Telephony Application Programming Interface (Microsoft and Intel)
TAT	Transit Access Termination
TB	B-ISDN T-type interface
TB	T reference point in B-ISDN
TC	Transmission Convergence sublayer
TCE	Transit Connection Element
TCP	Transmission Control Protocol
TCP	Transport Control Protocol (Internet)
TCP/IP	Transmission Control Protocol/Internet Protocol (Internet)
TCRF	Transit Connection Related Function
TDP	Trigger Detection Point
TE	Terminal Equipment
TEI	Terminal Endpoint Identifier
TETRA	TErrestrial Trunked RAdio
TEX	Transit EXchange
TM	Terminal Mobility
TMA	Terminal MoveAbility
TMN	Telecommunication Management Network
TOS	Type Of Service (field)
TP	Termination Point
TPE	Transmission Path Endpoint

TR	Technical Report
TS	Time Slot
TS	Time Stamp
TS	Traffic Shaping
TTP	Trail Termination Point
TUC	Total User Cell number
TUP	Telephone User Part
UBR	Unspecified Bit Rate
UDP	User Datagram Protocol
UIF	User Interface Functions
UMI	User MAN Interface
UMR	Usage Metering Record
UMTS	Universal Mobile Telecommunications System
UNI	User Network Interface
UP	User Plane
UPC	Usage Parameter Control
UPF	User Port Function
UPT	Universal Personal Telecommunication
UPTN	Universal Personal Telecommunication Number
URAN	UMTS Radio Access Network
URL	Uniform Resource Locator
VBD	Voice Band Data
VBR	Variable Bit Rate
VBR-nrt	non real-time VBR
VBR-rt	real-time VBR
VC	Virtual Channel
VC	Virtual channel
VC-AIS	Alarm Indication Signal for VC
VCC	Virtual Channel Connection
VCCE	Virtual Channel Connection Endpoint
VC-FERF	Far End Receive Failure for VC
VCI	Virtual Channel Identifier
VCL	Virtual Channel Link
VC-n	Virtual Container-n
VCS	Video Conference Service
VDSL	Very high speed Digital Subsciber Line
VHDSL	Very High bit rate Digital Subscriber Line
VLR	Visited Location Register (GSM)
VLSI	Very Large Scale Integration
VOD	Video On Demand
VP	Virtual Path
VP-AIS	Alarm Indication Signal for VP
VPC	Virtual Path Connection
VPCE	Virtual Path Connection Endpoint
VP-FERF	Far End Receive Failure for VP
VPI	Virtual Path Identifier
VPL	Virtual Path Link
VPLC	VP Link Connection
VPN	Virtual Private Network
VPNC	VP Network Connection
VPSC	VP Sub network Connection
VPXC	VP Cross Connect
VTX	VideoTeX
WAN	Wide Area Network
WCT	Worst Case Traffic
WDM	Wavelength Division Multiplexing
WTSC	World Telecommunication Standardization Conference
WWW	World Wide Web (Internet)
XC	Cross Connect
X-type	TMN interface

History

Document history		
V1.1.1	July 1998	Publication
V1.2.1	September 2001	Publication