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Broadband Integrated Services Digital Network (B-ISDN); Vocabulary for B-ISDN

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Foreword

This Technical Committee Reference Technical Report (TCR-TR) has been produced by the Network Aspects (NA) Technical Committee of the European Telecommunications Standards Institute (ETSI). This TCR-TR has been endorsed by the 21st TC Chairmen's Co-ordination (TCC 21) meeting, and approved by the 23rd Technical Assembly (TA 23).

A TCR-TR is a deliverable for use inside ETSI which records output results of ETSI Technical Committee (TC) or Sub-Technical Committee (STC) studies which are not appropriate for European Telecommunication Standard (ETS), Interim European Telecommunication Standard (I-ETS) or ETSI Technical Report (ETR) status. They can be used for guidelines, status reports, co-ordination documents, etc. They are to be used to manage studies inside ETSI and shall be mandatorially applied amongst the concerned TCs. They shall also be utilized by the TC with overall responsibility for a study area for co-ordination documents (e.g. models, reference diagrams, principles, structures of standards, framework and guideline documents) which constitute the agreed basis for several, if not all, TCs and STCs to pursue detailed standards.

This TCR-TR lists the terms used in the ETSI ETSs and Technical Reports (TRs) covering aspects of Broadband Integrated Services Digital Networks (B-ISDNs).

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1 Scope

This Technical Committee Reference Technical Report (TCR-TR) lists the terms used in the ETSI European Telecommunication Standards (ETSS) and Technical Reports (TRs) covering aspects of Broadband Integrated Services Digital Networks, (B-ISDNs). Included are terms already defined in other technical areas if they have a special sense in the B-ISDN context.

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

The list of abbreviations and acronyms include the acronyms used in B-ISDN and broadband contexts.

2 References

- [1] ITU-T Recommendation I.113: "Vocabulary of terms for broadband aspects of ISDN".
- [2] ITU-T Recommendation I.221: "Common specific characteristics of services".
- [3] ITU-T Recommendation I.361: "B-ISDN ATM layer specification".
- [4] ITU-T Recommendation I.371: "Traffic control and congestion control in B-ISDN".
- [5] ITU-T Recommendation I.374: "Framework Recommendation on 'network capabilities to support multimedia services'".
- [6] ITU-T Recommendation I.510: "Definitions and general principles for ISDN interworking".
- [7] ITU-T Recommendation Q.9: "Vocabulary of switching and signalling terms".
- [8] ITU-T Recommendation T.431: "Document transfer and manipulation (DTAM) - Services and protocols - Introduction and general principles".
- [9] ITU-T Recommendation X.213: "Information technology - Network service definition for Opens Systems Interconnection".
- [10] ITU Radio Regulations.
- [11] ETR 155: "Broadband Integrated Services Digital Network (B-ISDN); OAM functions and parameters for assessing performance parameters for B-ISDN".
- [12] ETS 300 353: "Broadband Integrated Services Digital Network (B-ISDN); Asynchronous Transfer Mode (ATM) Adaptation Layer (AAL) specification - type 1".
- [13] ETS 300 469: "Broadband Integrated Services Digital Network (B-ISDN); Asynchronous Transfer Mode (ATM); B-ISDN management architecture and management information model for the ATM crossconnect".
- [14] DE/NA-010019: "Network Aspects (NA); Broadband Connection Oriented Bearer (BCOB) service category".

3 Information about this 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 ITU-T Recommendation I.113 [2] references are the word numbers in ITU-T Recommendation I.113 [2].

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

Some definitions include terms in *italics face* to indicate that these terms are defined elsewhere in this report.

The list of abbreviations and acronyms include acronyms such as PAL and SECAM not used in B-ISDN contexts but which are used in broadband contexts. Also included are acronyms with more than one meanings such as CC for Call Control, Country Code or Cross Connect.

4 Vocabulary of terms

address: A name that contains location information.

addressable entity: An entity which is recognisable by the network, to which the network is able to route a *call*.

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

assigned cell (ATM layer): Cell which provides a service to an application using the ATM layer service.

Asynchronous Time Division (ATD) multiplexing: A multiplexing technique in which a transmission capability is organised in undedicated slots filled with *cells* with respect to each application's instantaneous real need. In this case, the terminal equipment (i.e. the customer application) defines the actual transmitted bit rate, whatever this rate is, possibly variable during the communication. This technique carries a *labelled interface structure over a frame* or a *self-delineating labelled interface*. (ITU-T Recommendation I.113 [2], definition 202)

Asynchronous Transfer Mode (ATM): A *transfer mode* in which the information is organised into cells; it is asynchronous in the sense that the recurrence of cells containing information from an individual user is not necessarily periodic. (ITU-T Recommendation I.113 [2], definition 204)

ATM Adaptation Layer (AAL): The AAL uses the ATM layer service and include multiple protocols to fit the need of the different AAL service users. (ETS 300 353 [12])

ATM connection: A concatenation of ATM layer links in order to provide an end-to-end transfer capability to access points. (ITU-T Recommendation I.113 [2], definition 505)

ATM layer connection: An 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 bidirectional or unidirectional.(ITU-T Recommendation I.113 [2], definition 506)

ATM link: A link provides for the capability of transferring information transparently, and represents the association, between two contiguous *connecting points* or between an endpoint and its contiguous *connecting point*. (ITU-T Recommendation I.113 [2], definition 507).

ATM traffic descriptor: A generic list of traffic parameters that can be used to capture the intrinsic traffic characteristics of an ATM *connection*. (ITU-T Recommendation I.113 [2], definition 708)

block payload: The bits in the information field within a *block*. (ITU-T Recommendation I.113 [2], definition 304)

block: A unit of information consisting of a *header* and an information field. (ITU-T Recommendation I.113 [2], definition 301)

broadband access: An ISDN access able to contain at least one channel capable of supporting a rate greater than the primary rate, or supporting an equivalent information transfer rate. (ITU-T Recommendation I.113 [2], definition 320)

broadband communication channel: A 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. (ITU-T Recommendation I.113 [2], definition 321)

broadband: A service or system requiring transmission channels greater than the primary rate. (ITU-T Recommendation I.113 [2], definition 101 modified)

broadcast: A communication configuration attribute which denotes unidirectional distribution to all users connected to the network and tuned for receiving.

broadcasting service: A 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 [10], 36 - 3,17)

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

Cell Delay Variation (CDV): The variation of actual cell arrival times of an ATM connection with respect to the theoretical cell arrival times.

cell delineation: The identification of *cell* boundaries in a cell stream. (ITU-T Recommendation I.113 [2], definition 306)

cell entry event: An event which occurs when the last bit of an ATM cell has completed transmission across a measurement point along a connection. (ETR 155 [11])

cell exit event: An event which occurs when the first bit of an ATM cell has completed transmission across a measurement point along a connection. (ETR 155 [11])

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

cell: A *block* of fixed length. It is identified by a label at the ATM layer of the B-ISDN protocol reference model. (ITU-T Recommendation I.113 [2], definition 305)

circuit transfer mode: A *transfer mode* in which transmission and switching functions are achieved by permanent allocation of channels/bandwidth between the *connections*. (ITU-T Recommendation I.113 [2], definition 206)

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

configuration management: A 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. (ITU-T Recommendation I.113 [2], definition 604)

congestion control: A set of actions taken to relieve congestion by limiting the spread and duration of it. (ITU-T Recommendation I.113 [2], definition 703)

congestion: A state of a network element in which the network element is not able to meet the negotiated Quality of Service (QoS) objective for the already established *connections* and/or for the new *connection* requests. (ITU-T Recommendation I.113 [2], definition 702)

connecting point: A 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. (ITU-T Recommendation I.113 [2], definition 508)

Connection Admission Control (CAC): The set of actions taken by the network at the call set up phase (or during call re-negotiation phase) in order to establish whether a virtual channel/virtual path connection can be accepted or rejected (or a request for re-allocation can be accommodated). Routing is part of connection admission control actions. (ITU-T Recommendation I.113 [2], definition 704)

Connection End Point (CEP): A 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. (ITU-T Recommendation I.113 [2], definition 509)

connection: A connection provides for the capability of transferring information between endpoints. It represents the association between endpoints together with the incremental information regarding the information transfer integrity. (ITU-T Recommendation I.113 [2], definition 504)

connectionless service: A service which allows the transfer of information between users without the need for end-to-end call establishment procedures. (ITU-T Recommendation I.113 [2], definition 105)

NOTE 1: Connectionless services may be used to support both *interactive* and *distributive services*.

Constant Bit Rate (CBR) service: A telecommunication service characterised by a service bit rate specified by a constant value. (ITU-T Recommendation I.113 [2], definition 103)

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 [2], definition 614 modified)

contribution, contribution application: Use of a broadband service or channel for transferring audio, video or other information to a user for further *post-production processing* and subsequent distribution. (ITU-T Recommendation I.113 [2], definition 111)

conversational service: An *interactive 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. (ITU-T Recommendation I.113 [2], definition 114)

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. (ITU-T Recommendation I.113 [2], definition 601)

deterministic; ATM deterministic: A 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. (ITU-T Recommendation I.113 [2], definition 209)

digital section level: Extends between *digital section* end-points and comprises a maintenance entity. (ITU-T Recommendation I.113 [2], definition 513)

digital section: The whole of the means of digital transmission of a signals of specified rate between two digital distribution *frames* or equivalent. (ITU-T Recommendation I.113 [2], definition 502)

digital transmission path: The 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*. (ITU-T Recommendation I.113 [2], definition 501)

distribution service with user individual presentation control: A *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. (ITU-T Recommendation I.113 [2], definition 120)

distribution service without user individual presentation control: A *distribution service* which users can access without having any control over the start and order of the presentation of the distributed information. (ITU-T Recommendation I.113 [2], definition 121)

distribution service: Service characterised by the unidirectional flow of information from a given point in the network to other (multiple) locations. Distribution services are subdivided into two classes: *distribution service without user individual presentation control* and *distribution service with user individual presentation control*. (ITU-T Recommendation I.113 [2], definition 119)

distribution, distribution application: Use of a broadband service or 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 [2], definition 110)

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

emulation: *Simulation* in real time.

encapsulation: The process by which a data unit is wrapped according to a special protocol in order to be transparently transferred through a network to its final destination.

enhanced quality television: Television of a quality superior to *existing-quality television*, but less than the quality of high-definition television. (ITU-T Recommendation I.113 [2], definition 123)

error check code: Specific result of the *error detection code* mechanism.

Error Detection Code (EDC): The mechanism for error detection of OAM *cells*. (ITU-T Recommendation I.113 [2], definition 615)

existing quality television: Television as defined in conventional 625-line and 525-line standards such as NTSC, PAL and SECAM. (ITU-T Recommendation I.113 [2], definition 122)

failure: The termination of the ability of an item to perform a required function. (ITU-T Recommendation I.113 [2], definition 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. (ITU-T Recommendation I.113 [2], definition 616)

fault localisation: Determination by internal or external test systems of a failed entity (ITU-T Recommendation I.113 [2], definition 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. (ITU-T Recommendation I.113 [2], definition 612)

fault: The inability of an item to perform a required function, excluding that inability due to preventive maintenance, lack of external resources, or planned actions. (ITU-T Recommendation I.113 [2], definition 603)

feedback controls: The 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.

frame relay: The 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: The *frame* relaying bearer service provides the bidirectional 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.

frame: A *block* of variable length identified by a label at layer 2 of the OSI reference model, e.g. an HDLC *block*. (ITU-T Recommendation I.113 [2], definition 308)

framed interface: An 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. (ITU-T Recommendation I.113 [2], definition 311)

general broadcast signalling virtual channel: A *virtual channel* independent of service profiles and used for broadcast signalling. (ITU-T Recommendation I.113 [2], definition 410)

generic address: An *address* which identifies a set of Network Service Access Points (NAPs), rather than a single specific NAP. (ITU-T Recommendation X.213 [9])

header, cell header: The bits within a *cell* allocated for functions required to transfer the cell payload within the network. (ITU-T Recommendation I.113 [2], definition 307)

hybrid interface structure: An interface structure which has a mixture of *labelled channels* and *positioned channels*. (ITU-T Recommendation I.113 [2], definition 330)

idle cell: A 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.

information payload capacity: The difference between the *interface rate* and the *interface overhead rate*, that is the bit rate of the *interface payload*. (ITU-T Recommendation I.113 [2], definition 315)

interactive service: A service which provides the means for bidirectional 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*. (ITU-T Recommendation I.113 [2], definition 113)

interchange medium: The type of means to interchange data between systems can be either a *storage medium*, a *transmission medium* or a combination. (ITU-T Recommendation I.374 [5])

interface overhead: The 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). (ITU-T Recommendation I.113 [2], definition 313)

interface payload: The portion of the bit stream of a *framed interface* which can be used for telecommunication services. Any signalling is included in the *interface payload*. (ITU-T Recommendation I.113 [2], definition 312)

interface rate; interface bit rate: The 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*. (ITU-T Recommendation I.113 [2], definition 314)

interworking: Interactions between networks, between end systems, or between parts thereof, with the aim of providing a functional entity capable of supporting an end-to-end communication. (ITU-T Recommendation I.510 [6])

invalid cell: A *cell* where the header by the header error control process is declared to contain errors. (ITU-T Recommendation I.113 [2], definition 317)

labelled channel: A temporally-ordered collection of all *block payloads* having a common label value. (ITU-T Recommendation I.113 [2], definition 322)

labelled deterministic channel: A *labelled channel* with the property that the aggregated payload capacity of all *blocks* in each successive interval of specified constant duration is a constant. (ITU-T Recommendation I.113 [2], definition 323)

labelled interface structure: An 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*. (ITU-T Recommendation I.113 [2], definition 327)

labelled multiplexing: The multiplexing of *labelled channels* by concatenating the *blocks* of the different channels. (ITU-T Recommendation I.113 [2], definition 325)

labelled statistical channel: A *labelled channel* in which the payload of the successive *blocks* of the channel is random and/or the *block* durations are random. (ITU-T Recommendation I.113 [2], definition 324)

level: The term level is used when describing the hierarchical structure of a network from a transport viewpoint. (ITU-T Recommendation I.113 [2], definition 511 modified)

link connection: A 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. (ETS 300 469 [13])

link: A topological component which describes the fixed relationship between a *sub-network* and another *sub-network* or access group. (ETS 300 469 [13])

logical signalling channel: A logical channel for signalling information which is contained within an information channel or a *physical signalling channel*. (ITU-T Recommendation I.113 [2], definition 408)

maintenance event: An instantaneous maintenance occurrence that changes the global status of an object. (ITU-T Recommendation I.113 [2], definition 608)

managed entity: A physical or logical resource that is to be managed. (ITU-T Recommendation I.113 [2], definition 606)

management entity: An entity capable of providing management functions (e.g. operation, administration, maintenance and provisioning). (ITU-T Recommendation I.113 [2], definition 605)

map: To map (over) is to establish a defined correspondence with the quantities or values of another set. (ITU-T Recommendation Q.9 [8])

maximum bit rate: The maximum bit rate corresponds to the maximum usable transfer bit rate from the users standpoint. (DE/NA-010019 [14])

mean bit rate: The mean bit rate correspond to the average usable transfer bit rate from the users standpoint. (DE/NA-010019 [14])

medium (plural media): A 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*. (ITU-T Recommendation I.374 [5])

message mode: A 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. (ITU-T Recommendation I.113 [2], definition 523)

messaging service: An *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. (ITU-T Recommendation I.113 [2], definition 115)

meta-signalling: The procedure for establishing, checking and releasing *signalling virtual channels*. (ITU-T Recommendation I.113 [2], definition 411)

mixed document: A document that may contain text, graphics, data, image and moving picture information as well as voice annotation. (ITU-T Recommendation I.113 [2], definition 106)

monitoring cell: Specific *OAM cell* used for performance monitoring. (ITU-T Recommendation I.113 [2], definition 610)

multicast: Unidirectional communication from a single source entity to an unlimited number of unspecified destination entities. (DE/NA-010019 [14])

multiconnection call: A call which is supported by two or more point-to-point connections between the users.

multimedia call: A call which offers a *multimedia service*.

multimedia service: A service in which the interchanged information consists of more than one type, such as text, graphics, sound, image and video. (ITU-T Recommendation I.113 [2], definition 107)

multimedia: The 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. (ITU-T Recommendation I.374 [5])

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

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

multiport: A communication configuration attribute which denotes that the communication involves more than two network terminations. (ITU-T Recommendation I.113 [2], definition 109 modified)

network charging capabilities: A 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.

network connection: A transport entity formed by the series of *connections* between termination connection points. (ETS 300 469 [13])

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. (DE/NA-010019 [14])

Network Node Interface (NNI): The interface at a network node which is used to interconnect with another network node. (ITU-T Recommendation I.113 [2], definition 319)

network operator: Entity which provides the network operating elements and resources for the actual execution of services. (DE/NA-010019 [14])

Network Parameter Control (NPC): The 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. (ITU-T Recommendation I.113 [2], definition 706)

OAM cell: A *cell* that carries OAM information for the performing of specific OAM functions. The term maintenance cell is often used as synonym for OAM cell. (ITU-T Recommendation I.113 [2], definition 609)

OAM flow: Bidirectional information flow for the performance of OAM functions in the network. (ITU-T Recommendation I.113 [2], definition 613)

OAM level: The OAM functions are organised in five OAM hierarchical levels associated with the ATM and the Physical Layer, to which correspond five OAM flows. (ITU-T Recommendation I.113 [2], definition 512)

packet transfer mode: A *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. (ITU-T Recommendation I.113 [2], definition 208)

packet: An information *block* identified by a label at layer 3 of the OSI reference model. (ITU-T Recommendation I.113 [2], definition 207)

payload module: That portion of the *information payload*, of an interface, within which one or more channels entirely exist. (ITU-T Recommendation I.113 [2], definition 316)

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

NOTE 2: The use of this identifier is specified in ITU-T Recommendation I.361 [3].

perception medium: The nature of the information as perceived by the user. (ITU-T Recommendation I.374 [5])

performance management cell: A specific *OAM cell* used for *performance management*. (ITU-T Recommendation I.113 [2], definition 618 modified)

performance management: A set of management functions which enable the performance of the network services to be measured and corrective actions to be taken. (ITU-T Recommendation I.113 [2], definition 617)

performance monitoring: The action of continuous or periodic checking of a managed entity to test its normal functioning. (ITU-T Recommendation I.113 [2], definition 619)

periodic frame: A transmission segment which is repeated at intervals of equal duration (e.g. 125 us), and may be delineated by incorporating fixed periodic patterns into the bit stream. (ITU-T Recommendation I.113 [2], definition 310)

physical frame: A segment of a serial logical bit stream at an interface, partitioned into successive segments. (ITU-T Recommendation I.113 [2], definition 309)

physical signalling channel: A dedicated physical channel (e.g. D-channel) used for signalling information, It may be used to carry other information. (ITU-T Recommendation I.113 [2], definition 407)

positioned channel: A channel that occupies bit positions which form a fixed periodic pattern (e.g. B- H- and D-channels in ISDN user network interfaces). (ITU-T Recommendation I.113 [2], definition 328)

positioned interface structure: A structure in which all services and signalling are provided by *positioned channels*. Such a structure can exist only within a *framed interface*. (ITU-T Recommendation I.113 [2], definition 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 utilisation. (ITU-T Recommendation I.113 [2], definition 112)

presentation medium: The type of physical means which is used to reproduce information to the user (output device) or the acquired information from the user (input device). (ITU-T Recommendation I.374 [5])

primitive: See service primitive.

regenerator section level: Extends between regenerator section endpoints. (ITU-T Recommendation I.113 [2], definition 514)

regenerator section: Portion of a *digital section*. (It is a maintenance sub-entity). (ITU-T Recommendation I.113 [2], definition 503)

representation medium: The type of the interchanged data, which defines the nature of the information as described by its coded form. (ITU-T Recommendation I.374 [5])

retrieval service: An *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. (ITU-T Recommendation I.113 [2], definition 117)

selective broadcast signalling virtual channel: A *virtual channel* allocated to a service profile and used for broadcast signalling. (ITU-T Recommendation I.113 [2], definition 411)

self-delineating block: A *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. (ITU-T Recommendation I.113 [2], definition 302)

self-delineating labelled interface: An interface whose entire bit stream consists of a self delineating *labelled multiplexing*. (ITU-T Recommendation I.113 [2], definition 326)

Service Access Point (SAP): The point at which services are provided by a layer to the next higher layer.

service bit rate: The bit rate which is available to a user for the transfer of user information. (ITU-T Recommendation I.113 [2], definition 102)

service component: A part of a service which describes a monomedium communication related to a single information type.

service control element: The primitives needed to control a multimedia service, for example to start a call, to add or release a service component. (ITU-T Recommendation I.374 [5])

Service Data Unit (SDU): The block of user information data passed at the source service access point as part of the service primitive. The exact definition of the SDU length and structure is specific for every service subcategory.

service primitive: The smallest defined interaction between a service user and the *service provider*. (ITU-T Recommendation T.431 [8])

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

service provider: Entity which offers services for service subscription. The network operator may be the service provider. (DE/NA-010019 [14])

service subscriber: Entity which subscribes to a service offered by the service provider. (DE/NA-010019 [14])

Signalling Virtual Channel (SVC): A *virtual channel* for transporting signalling information. (ITU-T Recommendation I.113 [2], definition 409)

simple call: Two party call supported by one *connection*. The *connection* can be unidirectional or bidirectional.

simulation: Imitation of the characteristics and appearance of a particular function.

sound retrieval service: On-demand (user initiated) retrieval of music and other audio information. (ITU-T Recommendation I.113 [2], definition 118)

source traffic descriptor: A 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. (ITU-T Recommendation I.113 [2], definition 709)

statistical; ATM statistical: A 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. (ITU-T Recommendation I.113 [2], definition 210)

storage medium: The type of physical means to store data. (ITU-T Recommendation I.374 [5])

streaming mode: A 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. (ITU-T Recommendation I.113 [2], definition 524)

Structured Data Transfer (SDT): The SDT supports the transmission of structured data (blocks of user data organised in octets) by using a pointer to the start of a block. (ETS 300 353 [12])

sub-network connection: A transport entity formed by a *connection* across a sub-network between connection points. It can be configured as part of the trail management process. (ETS 300 469 [13])

sub-network: A 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. (ETS 300 469 [13])

synchronous time division multiplexing: A multiplexing techniques supporting the *synchronous transfer mode* (STM). (ITU-T Recommendation I.113 [2], definition 203)

Synchronous Transfer Mode (STM): A *transfer mode* which offers periodically to each *connection* a fixed-length word. (ITU-T Recommendation I.113 [2], definition 205)

system protection: The action of minimising the effect of a managed entity by blocking or changeover to other entities. (As a result the failed entity is excluded from operation). (ITU-T Recommendation I.113 [2], definition 607)

throughput: The 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. (ITU-T Recommendation I.113 [2], definition 303)

traffic contract: The requested QoS for any given ATM connection and the maximum CDV tolerance allocated to the CEQ. (ITU-T Recommendation I.113 [2], definition 710)

traffic control: The set of actions taken by the network in all relevant network elements to avoid *congestion* conditions. (ITU-T Recommendation I.113 [2], definition 701)

traffic descriptor: The definition of the characteristic of the traffic that any given requested *connection* may offer. (ITU-T Recommendation I.113 [2], definition 707)

traffic parameter: A specification of a particular traffic aspect of an ATM connection.

traffic routing: The establishment of a successful connection between any two exchanges or connectionless servers in the network.

traffic shaping: A 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.

transfer mode: Mechanism for transmission, multiplexing and switching in a telecommunications network. (ITU-T Recommendation I.113 [2], definition 201 modified)

transit delay: The 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. (ITU-T Recommendation I.113 [2], definition 801)

transmission medium: The type of physical means to transmit data. (ITU-T Recommendation I.374 [5])

transmission path level: Extends between network elements assembling/disassembling the payload of a transmission system and associating it with its OAM functions. (ITU-T Recommendation I.113 [2], definition 512)

two-party call: A call in which exactly two users are involved.

unassigned cell (ATM layer): ATM layer cell which is not an assigned cell.

Usage Parameter Control (UPC): The 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. (ITU-T Recommendation I.113 [2], definition 705)

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 [2]. (DE/NA-010019 [14])

User Network Interface (UNI): An interface at which a customer network equipment is interconnected to a public network.

user: Entity which actually uses the service.(DE/NA-010019 [14])

valid cell: A *cell* where the header is declared by the header error control process to be free of errors. (ITU-T Recommendation I.113 [2], definition 318)

Variable Bit Rate (VBR) service: A type of telecommunication service characterised by a service bit rate specified by statistically expressed parameters which allow the bit rate to vary within defined limits. (ITU-T Recommendation I.113 [2], definition 104)

VC connection: A concatenation of *virtual channel links* that extends between two points where the adaptation layer is accessed. (ITU-T Recommendation I.113 [2], definition 403)

VC cross connect: A network element which connects *VC links*; it terminate *VPCs* and translates *VCI* values and is directed by Management Plane functions. (ITU-T Recommendation I.113 [2], definition 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*. (ITU-T Recommendation I.113 [2], definition 516)

VC link: A 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. (ITU-T Recommendation I.113 [2], definition 402)

VC switch: A network element which connects *VC links*; it terminates *VPCs* and it translates *VCI* values. It is directed by control plane functions. (ITU-T Recommendation I.113 [2], definition 520)

videomessaging: A *messaging service* for the transfer of moving pictures with or without other information. (ITU-T Recommendation I.113 [2], definition 116)

Virtual Channel (VC): A concept used to describe unidirectional transport of *ATM cells* associated by a common unique identifier value. (ITU-T Recommendation I.113 [2], definition 401)

Virtual Channel Identifier (VCI): Identifies a particular *VC link* for a given Virtual Path Connection (VPC).

Virtual Path (VP): A concept used to describe unidirectional transport of *ATM cells* belonging to *virtual channels* that are associated by a common identifier value. (ITU-T Recommendation I.113 [2], definition 404)

Virtual Path Connection (VPC): A 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. (ITU-T Recommendation I.113 [2], definition 406)

Virtual Path Identifier (VPI): Identifies a group of VC links, at a given reference point, that share the same VPC.

VP cross connect: A network element which connects VP links; it translates VPI values and is directed by management plane function. (ITU-T Recommendation I.113 [2], definition 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*. (ITU-T Recommendation I.113 [2], definition 515)

VP link: The 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. (ITU-T Recommendation I.113 [2])

VP switch: A network element which connects VP links; it translate VPI values and is directed by Control Plane functions. (ITU-T Recommendation I.113 [2], definition 518)

VP-VC cross connect: A network element that may act as VC cross-connect and/or and VP cross-connect. (ITU-T Recommendation I.113 [2], definition 521).

VP-VC switch: A network element that may act as VC switch and/or VP switch. (ITU-T Recommendation I.113 [2], definition 522)

5 Abbreviations and acronyms

AAL	ATM Adaptation Layer
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
ADSL	Asymmetric Digital Subscriber Line
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
ANTF	ATM Network Termination Functions
AOC	Advice Of Charge
ATAF	ATM Transit Access Functions
ATD	Asynchronous Time Division
ATF	Access Termination Functions
ATM	Asynchronous Transfer Mode
ATM-SDU	ATM Service Data Unit
ATMNE	ATM Network Element
AU	Administrative Unit
AUU	ATM-layer-user-to-ATM-layer-user
B-ISDN	Broadband Integrated Services Digital Network
B-ISPBX	Private Branch Exchange for B-ISDN
B-ISUP	B-ISDN User Part
B-NT	Network Termination for B-ISDN
B-NT1	Network Termination 1 for B-ISDN
B-NT2	Network Termination 2 for B-ISDN
B-TA	Terminal Adaptor for B-ISDN
B-TE	Terminal Equipment for B-ISDN
BAsize	Buffer Allocation size
BC	Bearer Control
BCD	Binary Coded Decimal
BCDBS	Broadband Connectionless Data Bearer Service
BCOBS	Broadband Connection Oriented Bearer Service
BER	Bit Error Ratio
BIP	Bit Interleaved Parity
BM	Business Management
BOM	Beginning of Message
Btag	Beginning Tag
C-n	Container - n
CA	Customer Access
CAC	Connection Admission Control
CAD	Computer Aided Design
CAM	Computer Aided Manufacturing
CAMC	Customer Access Maintenance Centre
CATV	Community Antenna TeleVision
CBDS	Connectionless Broadband Data Service
CBR	Constant Bit Rate
CC	Call Control
CC	Country Code
CC	Cross Connect
CCITT	Comité Consultatif International Telegraphique et Telephonique
CDV	Cell Delay Variation
CE	Congestion Experienced
CE	Connection Element

CE	Connection Endpoint
CEC	Cell Error Count
CEI	Connection Endpoint Identifier
CEP	Connection End Point
CEQ	Customer Equipment
CES	Connection Endpoint Suffix
CF	Connection Functions
CI	Customer Installation
CIB	CRC Indication Bit
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
CME	Connection Management Entity
CMI	Coded Mark Inversion
CN	Customer Network
CO	Connection Oriented
COH	Connection Overhead
COM	Continuation of Message
CON	Concentrator
CP	Control Plane
CP-AAL	Common Part of AAL type 3/4
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	Convergence Sublayer
CS-PDU	Convergence Sublayer Protocol Data Unit
CSDN	Circuit Switched Data Network
CSI	Convergence Sublayer Indication
CTF	Control Functions
CTP	Connection Termination Point
DA	Destination Address
DBR	Deterministic Bit Rate
DBS	Direct Broadcast Satellite
DIS	Draft International Standard
DLCI	Data Link Connection Identifier
DNIC	Data Network Identification Code
DPL	Primary Link for <i>Distribution Services</i>
DQDB	Distributed Queue Dual Bus
DS	Digital Section
DSAP	Destination Service Access Point

DSP	Domain Specific Part
DSS	Distributed Sample Scrambler
EBCN	Explicit Backward Congestion Notification
EC	Error Correction
ED	Error Detection
EDC	Error Detection Code
EFCI	Explicit Forward Connection Indication
EFCN	Explicit Forward Congestion Notification
EM	Element Management
EOM	End of Message
ET	Exchange Termination
ETag	End Tag
ETR	ETSI Technical Report
ETS	European Telecommunication Standard
ETSI	European Telecommunications Standards Institute
EURESCOM	European institute for Research and Strategic Studies in Communications
F1 ... F5	OAM flows 1 ... 5
FAM	Functional Architecture Model
FCS	Frame Check Sequence
FDDI	Fibre Distributed Data Interface
FEBE	Far End Block Error
FEC	Forward Error Correction
FERF	Far End Receive <i>Failure</i>
FIFO	First In First Out
FITL	Fiber In The Loop
FM	Fault Management
FMBS	Frame Mode Bearer Service
FR	Frame Relay
FRM	Fast Resource Management
FRP	Fast Reservation Protocol
GA	Group Address
GAHF	Group Address Handling Functions
GAP	Group Addressed PDU
GBSVC	General Broadcast Signalling Virtual Channel
GCRA	Generic Cell Rate monitoring Algorithm
GDMO	Guidelines for the Definition of Managed Objects
GFC	Generic Flow Control
GME	Global Management Entity
HDLC	High level Data Link Control
HDTV	High Definition Television
HE	Header Extension
HEC	Header Error Control
HEL	Header Extension Length
HLF	Higher Layer Functions
HLPI	Higher Layer Protocol Identifier
IBC	Integrated Broadband Communication
ICI	Inter Carrier Interface
ICI	Interface Control Information
ICIP	Inter-Carrier Interface Protocol
IDI	Initial Domain Identifier
IDP	Internet Datagram Protocol
IDU	Interface Data Unit
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronic Engineers
IMAI	Interworking MAN ATM Interface
IMF	Interworking Management Functions
IMPDU	Initial MAC Protocol Data Unit
IP	Internet Protocol
IPL	Primary Link for Interactive Services
IRP	Internal Reference Point
IS	International Standard
ISDN	Integrated Services Digital Network
ISO	International Organisation for Standardisation

ISUP	ISDN Signalling User Part
IT	Information Type
ITU	International Telecommunication Union
ITU-T	International Telecommunication Union - Telecommunication
ITU-TSS	International Telecommunication Union - Telecommunication Standardization Sector
IWF	Interworking Function
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
LLC	Logical Link Control
LME	Layer Management Entity
LOC	Loss Of Cell delineation
LOC	Loss Of Continuity check
LOM	Loss Of OAM
LOP	Loss Of Pointer
LOS	Loss Of Signal
LSB	Least Significant Bit
LSI	Large Scale Integration
LT	Line Termination
MA	Medium Adaptor
MAC	Media Access Control
MAC	Multiplexed Analogue Components (a TV standard)
MAI	MSS ATM Interface
MAN	Metropolitan Area Network
MBS	Monitoring Block Size
MCD	Maintenance Cell Description
ME	Mapping Entity
MID	Multiplexing Identification
MIM	Management Information Model
MIR	Maximum Information Rate
MMC	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
MS	Multiplex Section
MSB	Most Significant Bit
MSN	Monitoring cell Sequence Number
MSP	Maintenance Service Provider
MSS	MAN Switching System
MSVC	Meta Signalling Virtual Channel
MTP	Message Transfer Part
MUX	Multiplexer
N-ISDN	Narrowband Integrated Services Digital Network
NA	Network Aspects
NDC	National Destination Code
NE	Network Element
NEF	Network Element Function
NIC	Number of Included Cells
NM	Network Management
NMB	Number of Monitored Blocks
NMC	Network Management Centre
NNI	Network Network Interface
NP	Network Performance
NPC	Network Parameter Control

NRM	Network Resource Management
NSAP	Network Service Access Point
NSN	National Significant number
NT	Network Termination
NTF	Network Termination Functions
NTN	Network Terminal Number
NTSC	National Television System Committee modulation system (a TV standard)
OAM	Operation Administration and Maintenance
OAM	Operation And Maintenance
OAMC	Operation And Maintenance Centre
OFDM	Optical Frequency Division Multiplex
OS	Operating System
OSF	Operating System Functions
OSI	Open Systems Interconnection
OTDM	Optical Time Division Multiplex
OUI	Organisationally Unique Identifier
PAD	Padding
PAL	Phase Alternating Line modulation system (a TV standard)
PC	Priority Control
PCF	Protocol Conversion Functions
PCI	Protocol Control Information
PCM	Pulse Code Modulation
PCR	Peak Cell Rate
PDH	Plesiochronous Digital Hierarchy
PDN	Packet Data Network
PDU	Protocol Data Unit
PEI	Peak Emission Interval
PEN	Pan European Network
PHY	Physical Layer
PI	Protocol Identifier
PICS	Protocol Implementation Conformance Statement
PID	Protocol Identifier
PL	Pad Length
PL	Physical Layer
PL-OAM	Physical Layer Operation and Maintenance (cell)
PLK	Primary Link
PM	Performance Management
PM	Performance Monitoring
PM	Physical Medium
POH	Path Overhead
PON	Passive Optical Network
POTS	Plain Old Telephone Service
PPTU	PDU Per Time Unit
PRM	Protocol Reference Model
PSDN	Packet Switched Data Network
PSN	Physical layer OAM Sequence Number
PSTN	Public Switched Telephone Network
PSVC	Point-to-point Signalling Virtual Channel
PT	Payload Type
PTI	Payload Type Identifier
PTN	Public Telephone Network
PTR	Pointer
PVC	Permanent Virtual Channel
Q-type	TMN Interface
QoS	Quality of Service
RACE	Research and development in Advanced Communications technologies for Europe
RAI	Remote Alarm Indication
RC	Resource Control
RDI	Remote <i>Defect</i> Indicator
RES	Reserved (field)
RFH	Remote Frame Handler
RG	Regenerator

RM	Resource Management (cell)
RPOA	Recognised Private Operating Agency
RS	Regenerator Section
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
SBR	Statistical Bit Rate
SBSVC	Selective Broadcast Signalling Virtual Channel
SC	Sequence Count
SC	Service Component
SCE	Service Control Element
SCF	Service Control Functions
SCR	Sustainable Cell Rate
SDH	Synchronous Digital Hierarchy
SDL	Specification and Description Language
SDT	Structured Data Transfer
SDU	Service Data Unit
SECAM	Sequential Couleur A Mémoire modulation system (a TV standard)
SECB	Severely Errored Cell Block
SES	Severely Errored Second
SFET	Synchronous Frequency Encoding Technique
SIR	Sustained Information Rate
SLE	Sub-Layer Entity
SLP	Submitted Loss Priority
SM	Service Management
SMDS	Switched Multimegabit Data Service
SN	Sequence Number
SN	Subscriber Number
SNAP	Sub Network Access Protocol
SNP	Sequence Number Protection
SNPA	Sub-Network Point of Attachment
SOH	Section Overhead
SONET	Synchronous Optical NETwork
SP	Service Provider
SPL	Service Provider Link
SPN	Subscriber Premises Network
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
SSCS	Service Specific Convergence Sublayer
SSCS-PDU	SSCS Protocol Data Unit
SSF	Service Switching Functions
SSM	Single Segment Message
SSN	Switching or Signalling Node
ST	Segment Type
STM	Synchronous Transfer Mode
STM-n	Synchronous Transport Module - n
SVC	Signalling Virtual Channel
SVC	Switched Virtual Channel
TA	Terminal Adaptor
TAT	Transit Access Termination
TB	B-ISDN T-type interface
T _B	T reference point in B-ISDN
TC	Transmission Convergence sublayer
TCE	Transit Connection Element

TCRF	Transit Connection Related Function
TE	Terminal Equipment
TEI	Terminal Endpoint Identifier Telecommunications
TEX	Transit Exchange
TMN	Telecommunication Management Network
TP	Termination Point
TPE	Transmission Path Endpoint
TS	Time Slot
TS	Time Stamp
TS	Traffic Shaping
TTP	Trail Termination Point
TUC	Total User Cell number
UMI	User MAN Interface
UNI	User Network Interface
UP	User Plane
UPC	Usage Parameter Control
VBR	Variable Bit Rate
VC	Virtual Channel
VC-AIS	Alarm Indication Signal for VC
VC-FERF	Far End Receive Failure for VC
VC-n	Virtual Container - n
VCC	Virtual Channel Connection
VCCE	Virtual Channel Connection Endpoint
VCI	Virtual Channel Identifier
VCL	Virtual Channel Link
VCS	Video Conference Service
VLSI	Very Large Scale Integration
VOD	Video On Demand
VP	Virtual Path
VP-AIS	Alarm Indication Signal for VP
VP-FERF	Far End Receive Failure for VP
VPC	Virtual Path Connection
VPCE	Virtual Path Connection Endpoint
VPI	Virtual Path Identifier
VPL	Virtual Path Link
VPLC	VP Link Connection
VPNC	VP Network Connection
VPSC	VP Sub network Connection
VPXC	VP Cross Connect
X-type	TMN interface

History

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