International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

X.85/Y.1321

Amendment 2

(01/2009)

SERIES X: DATA NETWORKS, OPEN SYSTEM COMMUNICATIONS AND SECURITY

Public data networks – Transmission, signalling and switching

SERIES Y: GLOBAL INFORMATION INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS AND NEXT-GENERATION NETWORKS

Internet protocol aspects – Transport

IP over SDH using LAPS

Amendment 2 – Additional SAPI values for encapsulated protocols

Recommendation ITU-T X.85/Y.1321 (2001) – Amendment 2

ITU-T

ITU-T X-SERIES RECOMMENDATIONS

DATA NETWORKS, OPEN SYSTEM COMMUNICATIONS AND SECURITY

PUBLIC DATA NETWORKS	
Services and facilities	X.1–X.19
Interfaces	X.20–X.49
Transmission, signalling and switching	**X.50–X.89**
Network aspects	X.90–X.149
Maintenance	X.150–X.179
Administrative arrangements	X.180–X.199
OPEN SYSTEMS INTERCONNECTION	
Model and notation	X.200–X.209
Service definitions	X.210–X.219
Connection-mode protocol specifications	X.220–X.229
Connectionless-mode protocol specifications	X.230–X.239
PICS proformas	X.240–X.259
Protocol Identification	X.260–X.269
Security Protocols	X.270–X.279
Layer Managed Objects	X.280–X.289
Conformance testing	X.290–X.299
INTERWORKING BETWEEN NETWORKS	
General	X.300–X.349
Satellite data transmission systems	X.350–X.369
IP-based networks	X.370–X.379
MESSAGE HANDLING SYSTEMS	X.400–X.499
DIRECTORY	X.500–X.599
OSI NETWORKING AND SYSTEM ASPECTS	
Networking	X.600–X.629
Efficiency	X.630–X.639
Quality of service	X.640–X.649
Naming, Addressing and Registration	X.650–X.679
Abstract Syntax Notation One (ASN.1)	X.680–X.699
OSI MANAGEMENT	
Systems Management framework and architecture	X.700–X.709
Management Communication Service and Protocol	X.710–X.719
Structure of Management Information	X.720–X.729
Management functions and ODMA functions	X.730–X.799
SECURITY	X.800–X.849
OSI APPLICATIONS	
Commitment, Concurrency and Recovery	X.850–X.859
Transaction processing	X.860–X.879
Remote operations	X.880–X.889
Generic applications of ASN.1	X.890–X.899
OPEN DISTRIBUTED PROCESSING	X.900–X.999
TELECOMMUNICATION SECURITY	X.1000–

For further details, please refer to the list of ITU-T Recommendations.

Recommendation ITU-T X.85/Y.1321

IP over SDH using LAPS

Amendment 2

Additional SAPI values for encapsulated protocols

Summary

Amendment 2 to Recommendation ITU-T X.85/Y.1321 adds a set of new SAPI values for LAPS to Table A.1, to identify the encapsulated protocols. Most of the values contained in the new table come from IETF-assigned PPP DLL Protocol Numbers due to the LAPS compatibility with PPP/HDLC.

Source

Amendment 2 to Recommendation ITU-T X.85/Y.1321 (2001) was approved on 13 January 2009 by ITU-T Study Group 15 (2009-2012) under Recommendation ITU-T A.8 procedures.

FOREWORD

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The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

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In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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CONTENTS

Recommendation ITU-T X.85/Y.1321

IP over SDH using LAPS

Amendment 2

Additional SAPI values for encapsulated protocols

1) Table A.1

Modify Table A.1 of Annex A in Recommendation ITU-T X.85/Y.1321 as follows:

Table A.1 – SAPI values

SAPI value	Related upper layer
0001	Padding Protocol
0003	ROHC small-CID
0005	ROHC large-CID
0007 to 001f	Reserved (transparency inefficient)
0021	Internet Protocol version 4
0023	OSI Network Layer
0025	Xerox NS IDP
0027	DECnet Phase IV
0029	Appletalk
002b	Novell IPX
002d	Van Jacobson Compressed TCP/IP
002f	Van Jacobson Uncompressed TCP/IP
0031	Bridging PDU
0033	Stream Protocol (ST-II)
0035	Banyan Vines
0037	Reserved
0039	AppleTalk EDDP
003b	AppleTalk SmartBuffered
003d	Multi-Link
003f	NETBIOS Framing
0041	Cisco Systems
0043	Ascom Timeplex
0045	Fujitsu Link Backup and Load Balancing (LBLB)
0047	DCA Remote LAN
0049	Serial Data Transport Protocol (PPP-SDTP)
004b	SNA over 802.2

Table A.1 – SAPI values

SAPI value	Related upper layer
004d	SNA
004f	IPv6 Header Compression
0051	KNX Bridging Data
0053	Encryption
0055	Individual Link Encryption
0057	Internet Protocol version 6
0059	PPP Muxing
005b	Vendor-Specific Network Protocol (VSNP)
0061	RTP IPHC Full Header
0063	RTP IPHC Compressed TCP
0065	RTP IPHC Compressed Non TCP
0067	RTP IPHC Compressed UDP 8
0069	RTP IPHC Compressed RTP 8
006f	Stampede Bridging
0071	Reserved [Fox]
0073	MP+ Protocol
007d	Reserved (Control Escape)
007f	Reserved (compression inefficient)
0081	Reserved
0083	Reserved
00c1	NTCITS IPI
00cf	Reserved (PPP NLPID)
00fb	Compression on single link in multi-link group
00fd	1st choice compression
00ff	Reserved (compression inefficient)
1exx -02xx	(compression inefficient)
0201	802.1d Hello Packets
0203	IBM Source Routing BPDU
0205	DEC LANBridge100 Spanning Tree
0207	Cisco Discovery Protocol
0209	Netcs Twin Routing
020b	STP – Scheduled Transfer Protocol
020d	EDP – Extreme Discovery Protocol
0211	Optical Supervisory Channel Protocol (OSCP)
0213	Optical Supervisory Channel Protocol (OSCP)
0231	Luxcom
0233	Sigma Network Systems
0235	Apple Client Server Protocol

Table A.1 – SAPI values

SAPI value	Related upper layer
0281	MPLS Unicast
0283	MPLS Multicast
0285	IEEE p1284.4 standard – data packets
0287	ETSI TETRA Network Protocol Type 1
0289	Multichannel Flow Treatment Protocol
2063	RTP IPHC Compressed TCP No Delta
2065	RTP IPHC Context State
2067	RTP IPHC Compressed UDP 16
2069	RTP IPHC Compressed RTP 16
4001	Cray Communications Control Protocol
4003	CDPD Mobile Network Registration Protocol
4005	Expand accelerator protocol
4007	ODSICP NCP
4009	DOCSIS DLL
400b	Cetacean Network Detection Protocol
4021	Stacker LZS
4023	RefTek Protocol
4025	Fibre Channel
4027	EMIT Protocols
405b	Vendor-Specific Protocol (VSP)
8001-801f	Not Used – reserved
8021	Internet Protocol Control Protocol
8023	OSI Network Layer Control Protocol
8025	Xerox NS IDP Control Protocol
8027	DECnet Phase IV Control Protocol
8029	Appletalk Control Protocol
802b	Novell IPX Control Protocol
802d	Reserved
802f	Reserved
8031	Bridging NCP
8033	Stream Protocol Control Protocol
8035	Banyan Vines Control Protocol
8037	Reserved
8039	Reserved
803b	Reserved
803d	Multi-Link Control Protocol
803f	NETBIOS Framing Control Protocol
807d	Not Used – reserved

Table A.1 – SAPI values

SAPI value	Related upper layer
8041	Cisco Systems Control Protocol
8043	Ascom Timeplex
8045	Fujitsu LBLB Control Protocol
8047	DCA Remote LAN Network Control Protocol (RLNCP)
8049	Serial Data Control Protocol (PPP-SDCP)
804b	SNA over 802.2 Control Protocol
804d	SNA Control Protocol
804f	IP6 Header Compression Control Protocol
8051	KNX Bridging Control Protocol
8053	Encryption Control Protocol
8055	Individual Link Encryption Control Protocol
8057	IPv6 Control Protocol
8059	PPP Muxing Control Protocol
805b	Vendor-Specific Network Control Protocol (VSNCP)
806f	Stampede Bridging Control Protocol
8071	Reserved [Fox]
8073	MP+ Control Protocol
807d	Not Used – reserved
8081	Reserved Until 20-Oct-2000 [IANA]
8083	Reserved Until 20-Oct-2000 [IANA]
80c1	NTCITS IPI Control Protocol
80cf	Not Used – reserved
80fb	Compression on single link in multi-link group control
80fd	Compression Control Protocol
80ff	Not Used – reserved
8207	Cisco Discovery Protocol Control
8209	Netcs Twin Routing
820b	STP – Control Protocol
820d	EDPCP – Extreme Discovery Protocol Ctrl Prtcl
8235	Apple Client Server Protocol Control
8281	MPLSCP
8285	IEEE p1284.4 standard – Protocol Control
8287	ETSI TETRA TNP1 Control Protocol
8289	Multichannel Flow Treatment Protocol
9021	DVB-ASI
c021	Link Control Protocol
c023	Password Authentication Protocol
c025	Link Quality Report

Table A.1 – SAPI values

SAPI value	Related upper layer
c027	Shiva Password Authentication Protocol
c029	CallBack Control Protocol (CBCP)
c02b	BACP Bandwidth Allocation Control Protocol
c02d	BAP
c05b	Vendor-Specific Authentication Protocol (VSAP)
c081	Container Control Protocol
c223	Challenge Handshake Authentication Protocol
c225	RSA Authentication Protocol
c227	Extensible Authentication Protocol
c229	Mitsubishi Security Info Exch Ptcl (SIEP)
c26f	Stampede Bridging Authorization Protocol
c281	Proprietary Authentication Protocol
c283	Proprietary Authentication Protocol
c481	Proprietary Node ID Authentication Protocol
fe01	Ethernet
fe03	IEEE802.17, RPR
ff03	Fiber Channel FC-BBW
ff05	FICON
ff07	ESCON
ff09	Multiple Access Protocol Over SDH
Other	Reserved for future extension

ITU-T Y-SERIES RECOMMENDATIONS

GLOBAL INFORMATION INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS AND NEXT-GENERATION NETWORKS

GLOBAL INFORMATION INFRASTRUCTURE	
General	Y.100–Y.199
Services, applications and middleware	Y.200–Y.299
Network aspects	Y.300–Y.399
Interfaces and protocols	Y.400–Y.499
Numbering, addressing and naming	Y.500–Y.599
Operation, administration and maintenance	Y.600–Y.699
Security	Y.700–Y.799
Performances	Y.800–Y.899
INTERNET PROTOCOL ASPECTS	
General	Y.1000–Y.1099
Services and applications	Y.1100–Y.1199
Architecture, access, network capabilities and resource management	Y.1200–Y.1299
Transport	**Y.1300–Y.1399**
Interworking	Y.1400–Y.1499
Quality of service and network performance	Y.1500–Y.1599
Signalling	Y.1600–Y.1699
Operation, administration and maintenance	Y.1700–Y.1799
Charging	Y.1800–Y.1899
NEXT GENERATION NETWORKS	
Frameworks and functional architecture models	Y.2000–Y.2099
Quality of Service and performance	Y.2100–Y.2199
Service aspects: Service capabilities and service architecture	Y.2200–Y.2249
Service aspects: Interoperability of services and networks in NGN	Y.2250–Y.2299
Numbering, naming and addressing	Y.2300–Y.2399
Network management	Y.2400–Y.2499
Network control architectures and protocols	Y.2500–Y.2599
Security	Y.2700–Y.2799
Generalized mobility	Y.2800–Y.2899

For further details, please refer to the list of ITU-T Recommendations.

SERIES OF ITU-T RECOMMENDATIONS

Series A	Organization of the work of ITU-T
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	Transmission systems and media, digital systems and networks
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Cable networks and transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	Telecommunication management, including TMN and network maintenance
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
Series Q	Switching and signalling
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	**Data networks, open system communications and security**
Series Y	**Global information infrastructure, Internet protocol aspects and next-generation networks**
Series Z	Languages and general software aspects for telecommunication systems

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