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Link-Layer Types for PCAP-related Capture File Formats
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Abstract

This document describes a set of Packet CAPture (PCAP)-related LinkType values and creates an IANA registry for those values. These values are used by the PCAP and PCAP-Now-Generic specifications.

About This Document

This note is to be removed before publishing as an RFC.

Status information for this document may be found at https://datatracker.ietf.org/doc/draft-ietf-opsawg-pcaplinktype/.

Discussion of this document takes place on the opsawg Working Group mailing list (mailto:opsawg@ietf.org), which is archived at https://mailarchive.ietf.org/arch/browse/opsawg/. Subscribe at https://www.ietf.org/mailman/listinfo/opsawg/.

Source for this draft and an issue tracker can be found at https://github.com/IETF-OPSAWG-WG/pcapng.

Status of This Memo

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1. Introduction

In the late 1980s, Van Jacobson, Steve McCanne, and others at the Network Research Group at Lawrence Berkeley National Laboratory developed the tcpdump program to capture and dissect network traces. The code to capture traffic, using low-level mechanisms in various operating systems, and to read and write network traces to a file was later put into a library named libpcap [LIBPCAP].

Other documents describe the original (legacy) file format used by tcpdump (PCAP, [I-D.ietf-opsawg-pcap]), as well as a revised file format [I-D.ietf-opsawg-pcapng], both of which are used by tcpdump and Wireshark [Wireshark].

Within those file formats each packet that is captured is indicated by a LinkType value. The LinkType value selects one of many hundred formats for metadata and Layer 2 encapsulation of the packet.

This document creates an IANA registry for LinkType values, establishing the IANA Considerations by which other uses of the PCAP-related formats may register new LinkType values.

2. IANA Considerations

2.1. PCAP Registry

IANA is requested to create a new registry group entitled "The PCAP Registry".

2.2. LinkType Registry

IANA is also requested to create a registry entitled "PCAP-related LinkType List" under The PCAP registry group (Section 2.1).

The registry has the following structure:

* LinkType Value: Indicates the 16-bit unsigned integer assigned for this LinkType.

* LinkType Name: Indicates the symbolic name for this LinkType. The name is prefixed with "LINKTYPE_" (i.e., LINKTYPE_something).

* Change Controller: as per [RFC8126], Section 2.3

* Description: Provides a very short description.

* Reference: Indicates an authoritative document reference for the LinkType or a requester reference.

The policy allocation for the LinkType values is as follows:

* Values from 0 to 65000 are allocated following an Expert Review policy (Section 4.5 of [RFC8126]). Values in the ranges 0-10, 50-51, and 98-301 are already assigned; values in the ranges 11-49 and 52-97 are reserved and must not be assigned.

* Values from 65001 to 65535 are reserved for Experimental Use (Section 4.2 of [RFC8126]).

The initial version of the registry is provided in Section 2.2.1. In each case here, the reference should be set to [LINKTYPES] and the RFC number to be assigned to this document, which is not repeated each time.

The initial contents of the table are based upon the link-layer header type list maintained by libpcap, and published on [LINKTYPES]. The change controller for all initial entries that have no other reference is linktype@tcpdump.org.

LinkType values 147 to 162 named LINKTYPE_RESERVED_xx were originally reserved for Experimental/Private Use, and that use continues to be supported. However, new private use cases should use the values in the 65001-65535 range.

In general, Experimental Use values should never leak out of the entity that uses it. As the FCFS range is large and easily obtained, official values are recommended.

> There is often an associated Data Link Type (DLT) value which is often identical in value, but not universally so. DLT values are associated with specific operating systems, and the numerical values for some of them are operating system specific, and are thus not subject to standardization.

2.2.1. Initial Values

This is the initial table for the registry:

LinkType Value 0
LinkType Name LINKTYPE_NULL
Description BSD loopback encapsulation
Reference [LINKTYPE_NULL]

LinkType Value 1
LinkType Name LINKTYPE_ETHERNET
Description IEEE 802.3 Ethernet
Reference [LINKTYPE_ETHERNET]

LinkType Value 2
LinkType Name LINKTYPE_EXP_ETHERNET
Description Xerox experimental 3Mb Ethernet
Reference [PracConsEthDesign]

LinkType Value 3
LinkType Name LINKTYPE_AX25
Description AX.25 layer 2 packets
Reference [LINKTYPE_AX25]

LinkType Value 4
LinkType Name LINKTYPE_PRONET
Description Proteon PRONet Token Ring

LinkType Value 5
LinkType Name LINKTYPE_CHAOS
Description MIT Chaosnet
Reference [AIM-628]

LinkType Value 6
LinkType Name LINKTYPE_IEEE802_5
Description IEEE 802.5 Token Ring

LinkType Value 7
LinkType Name LINKTYPE_ARCNET_BSD
Description ARCNET Data Packets with BSD encapsulation

LinkType Value 8
LinkType Name LINKTYPE_SLIP
Description SLIP, with a direction header
Reference [LINKTYPE_SLIP]

LinkType Value 9
LinkType Name LINKTYPE_PPP
Description PPP
Reference [LINKTYPE_PPP]

LinkType Value 10
LinkType Name LINKTYPE_FDDI
Description FDDI: per ANSI INCITS 239-1994

LinkType Value 11-49
LinkType Name Not available for assignment
Description Do not use these values

LinkType Value 50
LinkType Name LINKTYPE_PPP_HDLC
Description PPP in HDLC-like framing
Reference [LINKTYPE_PPP_HDLC]

LinkType Value 51
LinkType Name LINKTYPE_PPP_ETHER
Description PPPoE session packets
Reference [LINKTYPE_PPP_ETHER]

LinkType Value 52-98
LinkType Name Not available for assignment
Description Used historically by NetBSD

LinkType Value 99
LinkType Name LINKTYPE_SYMANTEC_FIREWALL
Description Symantec Enterprise Firewall

LinkType Value 100
LinkType Name LINKTYPE_ATM_RFC1483
Description LLC/SNAP-encapsulated ATM
Reference [LINKTYPE_ATM_RFC1483]

LinkType Value 101
LinkType Name LINKTYPE_RAW
Description IP without link-layer headers
Reference [LINKTYPE_RAW] [RFC791] [RFC8200]

LinkType Value 102
LinkType Name LINKTYPE_SLIP_BSDOS
Description BSD/OS SLIP BPF header

LinkType Value 103
LinkType Name LINKTYPE_PPP_BSDOS
Description BSD/OS PPP BPF header

LinkType Value 104
LinkType Name LINKTYPE_C_HDLC
Description Cisco PPP with HDLC framing
Reference [LINKTYPE_C_HDLC]

LinkType Value 105
LinkType Name LINKTYPE_IEEE802_11
Description IEEE 802.11 wireless LAN

LinkType Value 106
LinkType Name LINKTYPE_ATM_CLIP
Description ATM Classical IP, with no header preceding IP

LinkType Value 107
LinkType Name LINKTYPE_FRELAY
Description Frame Relay LAPF
Reference [LINKTYPE_FRELAY]

LinkType Value 108
LinkType Name LINKTYPE_LOOP
Description OpenBSD loopback encapsulation
Reference [LINKTYPE_LOOP]

LinkType Value 109
LinkType Name LINKTYPE_ENC
Description OpenBSD IPsec encapsulation

LinkType Value 110
LinkType Name LINKTYPE_LANE8023
Description ATM LANE + 802.3

```
   LinkType Value  111
   LinkType Name  LINKTYPE_HIPPI
   Description  NetBSD HIPPI

   LinkType Value  112
   LinkType Name  LINKTYPE_HDLC
   Description  NetBSD HDLC framing

   LinkType Value  113
   LinkType Name  LINKTYPE_LINUX_SLL
   Description  Linux "cooked" capture encapsulation
   Reference  [LINKTYPE_LINUX_SLL]

   LinkType Value  114
   LinkType Name  LINKTYPE_LTALK
   Description  Apple LocalTalk
   Reference  [LINKTYPE_LTALK]

   LinkType Value  115
   LinkType Name  LINKTYPE_ECONET
   Description  Acorn Econet

   LinkType Value  116
   LinkType Name  LINKTYPE_IPFILTER
   Description  OpenBSD ipfilter

   LinkType Value  117
   LinkType Name  LINKTYPE_PFLOG
   Description  PF packet filter logging

   LinkType Value  118
   LinkType Name  LINKTYPE_CISCO_IOS
   Description  Cisco-internal use

   LinkType Value  119
   LinkType Name  LINKTYPE_IEEE802_11_PRISM
   Description  IEEE 802.11 wireless LAN, preceded by a Prism monitor
      mode header
   Reference  [LINKTYPE_IEEE802_11_PRISM]

   LinkType Value  120
   LinkType Name  LINKTYPE_IEEE802_11_AIRONET
   Description  802.11 + FreeBSD Aironet radio metadata

   LinkType Value  121
   LinkType Name  LINKTYPE_HHDLC
   Description  Siemens HiPath HDLC
```

LinkType Value 122
LinkType Name LINKTYPE_IP_OVER_FC
Description IP and ATM over Fibre Channel
Reference [LINKTYPE_IP_OVER_FC]

LinkType Value 123
LinkType Name LINKTYPE_SUNATM
Description ATM traffic captured from a SunATM device
Reference [LINKTYPE_SUNATM]

LinkType Value 124
LinkType Name LINKTYPE_RIO
Description RapidIO

LinkType Value 125
LinkType Name LINKTYPE_PCI_EXP
Description PCI Express

LinkType Value 126
LinkType Name LINKTYPE_AURORA
Description Xilinx Aurora link layer

LinkType Value 127
LinkType Name LINKTYPE_IEEE802_11_RADIOTAP
Description IEEE 802.11 wireless LAN, preceded by a Radiotap header
Reference [Radiotap]

LinkType Value 128
LinkType Name LINKTYPE_TZSP
Description Tazmen Sniffer Protocol

LinkType Value 129
LinkType Name LINKTYPE_ARCNET_LINUX
Description ARCNET Data Packets with Linux encapsulation

LinkType Value 130
LinkType Name LINKTYPE_JUNIPER_MLPPP
Description Juniper Networks

LinkType Value 131
LinkType Name LINKTYPE_JUNIPER_MLFR
Description Juniper Networks

LinkType Value 132
LinkType Name LINKTYPE_JUNIPER_ES
Description Juniper Networks

LinkType Value 133

LinkType Name LINKTYPE_JUNIPER_GGSN
Description Juniper Networks

LinkType Value 134
LinkType Name LINKTYPE_JUNIPER_MFR
Description Juniper Networks

LinkType Value 135
LinkType Name LINKTYPE_JUNIPER_ATM2
Description Juniper Networks

LinkType Value 136
LinkType Name LINKTYPE_JUNIPER_SERVICES
Description Juniper Networks

LinkType Value 137
LinkType Name LINKTYPE_JUNIPER_ATM1
Description Juniper Networks

LinkType Value 138
LinkType Name LINKTYPE_APPLE_IP_OVER_IEEE1394
Description Apple IP-over-IEEE 1394 cooked header
Reference [LINKTYPE_APPLE_IP_OVER_IEEE1394]

LinkType Value 139
LinkType Name LINKTYPE_MTP2_WITH_PHDR
Description SS7 MTP2 frames, with a pseudo-header
Reference [LINKTYPE_MTP2_WITH_PHDR]

LinkType Value 140
LinkType Name LINKTYPE_MTP2
Description SS7 MTP2 packets
Reference [LINKTYPE_MTP2]

LinkType Value 141
LinkType Name LINKTYPE_MTP3
Description SS7 MTP3 packets
Reference [LINKTYPE_MTP3]

LinkType Value 142
LinkType Name LINKTYPE_SCCP
Description SS7 SCCP packets
Reference [LINKTYPE_SCCP]

LinkType Value 143
LinkType Name LINKTYPE_DOCSIS
Description DOCSIS MAC frames
Reference [DOCSIS-4.0-MULP]

LinkType Value 144
LinkType Name LINKTYPE_LINUX_IRDA
Description Linux-IrDA packets
Reference [LINKTYPE_LINUX_IRDA]

LinkType Value 145
LinkType Name LINKTYPE_IBM_SP
Description IBM SP switch

LinkType Value 146
LinkType Name LINKTYPE_IBM_SN
Description IBM Next Federation switch

LinkType Value 147
LinkType Name LINKTYPE_RESERVED_01
Description For private use (deprecated)

LinkType Value 148
LinkType Name LINKTYPE_RESERVED_02
Description For private use (deprecated)

LinkType Value 149
LinkType Name LINKTYPE_RESERVED_03
Description For private use (deprecated)

LinkType Value 150
LinkType Name LINKTYPE_RESERVED_04
Description For private use (deprecated)

LinkType Value 151
LinkType Name LINKTYPE_RESERVED_05
Description For private use (deprecated)

LinkType Value 152
LinkType Name LINKTYPE_RESERVED_06
Description For private use (deprecated)

LinkType Value 153
LinkType Name LINKTYPE_RESERVED_07
Description For private use (deprecated)

LinkType Value 154
LinkType Name LINKTYPE_RESERVED_08
Description For private use (deprecated)

LinkType Value 155
LinkType Name LINKTYPE_RESERVED_09
Description For private use (deprecated)

LinkType Value 156
LinkType Name LINKTYPE_RESERVED_10
Description For private use (deprecated)

LinkType Value 157
LinkType Name LINKTYPE_RESERVED_11
Description For private use (deprecated)

LinkType Value 158
LinkType Name LINKTYPE_RESERVED_12
Description For private use (deprecated)

LinkType Value 159
LinkType Name LINKTYPE_RESERVED_13
Description For private use (deprecated)

LinkType Value 160
LinkType Name LINKTYPE_RESERVED_14
Description For private use (deprecated)

LinkType Value 161
LinkType Name LINKTYPE_RESERVED_15
Description For private use (deprecated)

LinkType Value 162
LinkType Name LINKTYPE_RESERVED_16
Description For private use (deprecated)

LinkType Value 163
LinkType Name LINKTYPE_IEEE802_11_AVS
Description IEEE 802.11 wireless LAN, preceded by an AVS header
Reference [AVS]

LinkType Value 164
LinkType Name LINKTYPE_JUNIPER_MONITOR
Description Juniper Networks

LinkType Value 165
LinkType Name LINKTYPE_BACNET_MS_TP
Description BACnet MS/TP frames
Reference [LINKTYPE_BACNET_MS_TP]

LinkType Value 166
LinkType Name LINKTYPE_PPP_PPPD
Description PPP preceded by a direction octet and an HDLC-like
control field
Reference [LINKTYPE_PPP_PPPD]

LinkType Value 167
LinkType Name LINKTYPE_JUNIPER_PPPOE
Description Juniper Networks

LinkType Value 168
LinkType Name LINKTYPE_JUNIPER_PPPOE_ATM
Description Juniper Networks

LinkType Value 169
LinkType Name LINKTYPE_GPRS_LLC
Description General Packet Radio Service Logical Link Control, as per 3GPP TS 04.64
Reference [_3GPP-TS-04.64]

LinkType Value 170
LinkType Name LINKTYPE_GPF_T
Description Transparent-mapped generic framing procedure
Reference [G.7041]

LinkType Value 171
LinkType Name LINKTYPE_GPF_F
Description Frame-mapped generic framing procedure
Reference [G.7041]

LinkType Value 172
LinkType Name LINKTYPE_GCOM_T1E1
Description Gcom T1/E1 line monitoring equipment

LinkType Value 173
LinkType Name LINKTYPE_GCOM_SERIAL
Description Gcom T1/E1 line monitoring equipment

LinkType Value 174
LinkType Name LINKTYPE_JUNIPER_PIC_PEER
Description Juniper Networks

LinkType Value 175
LinkType Name LINKTYPE_ERF_ETH
Description Endace TYPE_ETH ERF records
Reference [LINKTYPE_ERF]

LinkType Value 176
LinkType Name LINKTYPE_ERF_POS
Description Endace TYPE_POS_HDLC ERF records
Reference [LINKTYPE_ERF]

LinkType Value 177
LinkType Name LINKTYPE_LINUX_LAPD

Description Linux vISDN LAPD frames
Reference [LINKTYPE_LINUX_LAPD]

LinkType Value 178
LinkType Name LINKTYPE_JUNIPER_ETHER
Description Juniper Networks

LinkType Value 179
LinkType Name LINKTYPE_JUNIPER_PPP
Description Juniper Networks

LinkType Value 180
LinkType Name LINKTYPE_JUNIPER_FRELAY
Description Juniper Networks

LinkType Value 181
LinkType Name LINKTYPE_JUNIPER_CHDLC
Description Juniper Networks

LinkType Value 182
LinkType Name LINKTYPE_MFR
Description FRF.16.1 Multi-Link Frame Relay frames
Reference [LINKTYPE_MFR]

LinkType Value 183
LinkType Name LINKTYPE_JUNIPER_VP
Description Juniper Networks

LinkType Value 184
LinkType Name LINKTYPE_A429
Description ARINC 429 frames

LinkType Value 185
LinkType Name LINKTYPE_A653_ICM
Description Arinc 653 Interpartition Communication messages

LinkType Value 186
LinkType Name LINKTYPE_USB_FREEBSD
Description USB traffic captured on FreeBSD

LinkType Value 187
LinkType Name LINKTYPE_BLUETOOTH_HCI_H4
Description Bluetooth HCI UART Transport Layer packets
Reference [LINKTYPE_BLUETOOTH_HCI_H4]

LinkType Value 188
LinkType Name LINKTYPE_IEEE802_16_MAC_CPS
Description IEEE 802.16 MAC Common Part Sublayer

LinkType Value 189
LinkType Name LINKTYPE_USB_LINUX
Description USB packets, beginning with a Linux USB header
Reference [LINKTYPE_USB_LINUX]

LinkType Value 190
LinkType Name LINKTYPE_CAN20B
Description Controller Area Network (CAN) v. 2.0B packets

LinkType Value 191
LinkType Name LINKTYPE_IEEE802_15_4_LINUX
Description IEEE 802.15.4 with address fields padded by Linux

LinkType Value 192
LinkType Name LINKTYPE_PPI
Description Per-Packet Information header preceding packet data
Reference [LINKTYPE_PPI]

LinkType Value 193
LinkType Name LINKTYPE_IEEE802_16_MAC_CPS_RADIO
Description 802.16 MAC Common Part Sublayer plus radio header

LinkType Value 194
LinkType Name LINKTYPE_JUNIPER_ISM
Description Juniper Networks

LinkType Value 195
LinkType Name LINKTYPE_IEEE802_15_4_WITHFCS
Description IEEE 802.15.4 with FCS
Reference [LINKTYPE_IEEE802_15_4_WITHFCS]

LinkType Value 196
LinkType Name LINKTYPE_SITA
Description Various link-layer types, with a pseudo-header
Reference [LINKTYPE_SITA]

LinkType Value 197
LinkType Name LINKTYPE_ERF
Description Endace ERF records
Reference [LINKTYPE_ERF]

LinkType Value 198
LinkType Name LINKTYPE_RAIF1
Description Ethernet packets captured from a u10 Networks board

LinkType Value 199
LinkType Name LINKTYPE_IPMB_KONTRON
Description IPMB packet for IPMI, with a 2-octet header

LinkType Value 200
LinkType Name LINKTYPE_JUNIPER_ST
Description Juniper Networks

LinkType Value 201
LinkType Name LINKTYPE_BLUETOOTH_HCI_H4_WITH_PHDR
Description Bluetooth HCI UART Transport Layer packets with a direction pseudo-header
Reference [LINKTYPE_BLUETOOTH_HCI_H4_WITH_PHDR]

LinkType Value 202
LinkType Name LINKTYPE_AX25_KISS
Description KISS frames between a host and an AX.25 TNC
Reference [LINKTYPE_AX25_KISS]

LinkType Value 203
LinkType Name LINKTYPE_LAPD
Description Q.921 LAPD frames
Reference [LINKTYPE_LAPD]

LinkType Value 204
LinkType Name LINKTYPE_PPP_WITH_DIR
Description PPP, with a direction header
Reference [LINKTYPE_PPP_WITH_DIR]

LinkType Value 205
LinkType Name LINKTYPE_C_HDLC_WITH_DIR
Description Cisco PPP with HDLC framing, with a direction header
Reference [LINKTYPE_C_HDLC_WITH_DIR]

LinkType Value 206
LinkType Name LINKTYPE_FRELAY_WITH_DIR
Description Frame Relay LAPF, with a direction header
Reference [LINKTYPE_FRELAY_WITH_DIR]

LinkType Value 207
LinkType Name LINKTYPE_LAPB_WITH_DIR
Description X.25 LAPB, with a direction header
Reference [LINKTYPE_LAPB_WITH_DIR]

LinkType Value 208
LinkType Name WillBarker-Proprietary
Description Proprietary Link-Layer type

LinkType Value 209
LinkType Name LINKTYPE_I2C_LINUX
Description Linux I2C packets
Reference [LINKTYPE_I2C_LINUX]

LinkType Value 210
LinkType Name LINKTYPE_FLEXRAY
Description FlexRay frames or symbols, with a pseudo-header
Reference [LINKTYPE_FLEXRAY]

LinkType Value 211
LinkType Name LINKTYPE_MOST
Description Media Oriented Systems Transport (MOST) bus

LinkType Value 212
LinkType Name LINKTYPE_LIN
Description Local Interconnect Network (LIN) automotive bus, with a metadata header
Reference [LINKTYPE_LIN]

LinkType Value 213
LinkType Name LINKTYPE_X2E_SERIAL
Description X2E serial line captures

LinkType Value 214
LinkType Name LINKTYPE_X2E_XORAYA
Description X2E Xoraya data loggers

LinkType Value 215
LinkType Name LINKTYPE_IEEE802_15_4_NONASK_PHY
Description IEEE 802.15.4 with PHY header
Reference [LINKTYPE_IEEE802_15_4_NONASK_PHY]

LinkType Value 216
LinkType Name LINKTYPE_LINUX_EVDEV
Description Linux evdev messages

LinkType Value 217
LinkType Name LINKTYPE_GSMTAP_UM
Description GSM Um interface, with gsmtap header

LinkType Value 218
LinkType Name LINKTYPE_GSMTAP_ABIS
Description GSM Abis interface, with gsmtap header

LinkType Value 219
LinkType Name LINKTYPE_MPLS
Description MPLS packets with MPLS label as the header

LinkType Value 220
LinkType Name LINKTYPE_USB_LINUX_MMAPPED
Description USB packets, beginning with an extended Linux USB header
Reference [LINKTYPE_USB_LINUX_MMAPPED]

LinkType Value 221
LinkType Name LINKTYPE_DECT
Description DECT packets, with a pseudo-header

LinkType Value 222
LinkType Name LINKTYPE_AOS
Description OS Space Data Link Protocol

LinkType Value 223
LinkType Name LINKTYPE_WIHART
Description Wireless HART (Highway Addressable Remote Transducer)

LinkType Value 224
LinkType Name LINKTYPE_FC_2
Description Fibre Channel FC-2 frames
Reference [LINKTYPE_FC_2]

LinkType Value 225
LinkType Name LINKTYPE_FC_2_WITH_FRAME_DELIMS
Description Fibre Channel FC-2 frames with SOF and EOF
Reference [LINKTYPE_FC_2_WITH_FRAME_DELIMS]

LinkType Value 226
LinkType Name LINKTYPE_IPNET
Description Solaris ipnet
Reference [LINKTYPE_IPNET]

LinkType Value 227
LinkType Name LINKTYPE_CAN_SOCKETCAN
Description Controller Area Network (CAN) frames, with a metadata header
Reference [LINKTYPE_CAN_SOCKETCAN]

LinkType Value 228
LinkType Name LINKTYPE_IPV4
Description IPv4 without link-layer headers
Reference [LINKTYPE_IPV4] [RFC791]

LinkType Value 229
LinkType Name LINKTYPE_IPV6
Description IPv6 without link-layer headers
Reference [LINKTYPE_IPV6] [RFC8200]

LinkType Value 230
LinkType Name LINKTYPE_IEEE802_15_4_NOFCS
Description IEEE 802.15.4 without FCS
Reference [LINKTYPE_IEEE802_15_4_NOFCS]

LinkType Value 231
LinkType Name LINKTYPE_DBUS
Description D-Bus messages
Reference [LINKTYPE_DBUS]

LinkType Value 232
LinkType Name LINKTYPE_JUNIPER_VS
Description Juniper Networks

LinkType Value 233
LinkType Name LINKTYPE_JUNIPER_SRX_E2E
Description Juniper Networks

LinkType Value 234
LinkType Name LINKTYPE_JUNIPER_FIBRECHANNEL
Description Juniper Networks

LinkType Value 235
LinkType Name LINKTYPE_DVB_CI
Description DVB-CI messages, with a pseudo-header
Reference [DVB-CI-PCAP]

LinkType Value 236
LinkType Name LINKTYPE_MUX27010
Description Variant of 3GPP TS 27.010 multiplexing protocol
Reference [LINKTYPE_MUX27010]

LinkType Value 237
LinkType Name LINKTYPE_STANAG_5066_D_PDU
Description STANAG 5066 D_PDUs
Reference [LINKTYPE_STANAG_5066_D_PDU]

LinkType Value 238
LinkType Name LINKTYPE_JUNIPER_ATM_CEMIC
Description Juniper Networks

LinkType Value 239
LinkType Name LINKTYPE_NFLOG
Description Linux netlink NETLINK NFLOG socket log messages
Reference [LINKTYPE_NFLOG]

LinkType Value 240
LinkType Name LINKTYPE_NETANALYZER
Description Ethernet frames with netANALYZER pseudo-header
Reference [LINKTYPE_NETANALYZER]

LinkType Value 241
LinkType Name LINKTYPE_NETANALYZER_TRANSPARENT

Description Ethernet frames with netANALYZER pseudo-header, preamble, and SFD
Reference [LINKTYPE_NETANALYZER_TRANSPARENT]

LinkType Value 242
LinkType Name LINKTYPE_IPOIB
Description IP-over-InfiniBand
Reference [LINKTYPE_IPOIB]

LinkType Value 243
LinkType Name LINKTYPE_MPEG_2_TS
Description MPEG-2 Transport Stream transport packets
Reference [LINKTYPE_MPEG_2_TS]

LinkType Value 244
LinkType Name LINKTYPE_NG40
Description Frames from ng4T GmbH’s ng40 protocol tester
Reference [LINKTYPE_NG40]

LinkType Value 245
LinkType Name LINKTYPE_NFC_LLCP
Description NFC Logical Link Control Protocol frames, with a pseudo-header
Reference [LINKTYPE_NFC_LLCP]

LinkType Value 246
LinkType Name LINKTYPE_PFSYNC
Description pfsync output

LinkType Value 247
LinkType Name LINKTYPE_INFINIBAND
Description InfiniBand data packets
Reference [LINKTYPE_INFINIBAND]

LinkType Value 248
LinkType Name LINKTYPE_SCTP
Description SCTP packets, with no lower-level protocols such as IPv4 or IPv6
Reference [RFC9260]

LinkType Value 249
LinkType Name LINKTYPE_USBPCAP
Description USB packets, beginning with a USBPcap header
Reference [USBPcap]

LinkType Value 250
LinkType Name LINKTYPE_RTAC_SERIAL
Description Serial-line packet from the Schweitzer Engineering

Laboratories RTAC product
Reference [LINKTYPE_RTAC_SERIAL]

LinkType Value 251
LinkType Name LINKTYPE_BLUETOOTH_LE_LL
Description Bluetooth Low Energy link-layer packets
Reference [LINKTYPE_BLUETOOTH_LE_LL]

LinkType Value 252
LinkType Name LINKTYPE_WIRESHARK_UPPER_PDU
Description Wireshark

LinkType Value 253
LinkType Name LINKTYPE_NETLINK
Description Linux Netlink capture encapsulation
Reference [LINKTYPE_NETLINK]

LinkType Value 254
LinkType Name LINKTYPE_BLUETOOTH_LINUX_MONITOR
Description Bluetooth Linux Monitor
Reference [LINKTYPE_BLUETOOTH_LINUX_MONITOR]

LinkType Value 255
LinkType Name LINKTYPE_BLUETOOTH_BREDR_BB
Description Bluetooth Basic Rate and Enhanced Data Rate baseband packets
Reference [LINKTYPE_BLUETOOTH_BREDR_BB]

LinkType Value 256
LinkType Name LINKTYPE_BLUETOOTH_LE_LL_WITH_PHDR
Description Bluetooth Low Energy link-layer packets
Reference [LINKTYPE_BLUETOOTH_LE_LL_WITH_PHDR]

LinkType Value 257
LinkType Name LINKTYPE_PROFIBUS_DL
Description PROFIBUS data link layer packets
Reference [LINKTYPE_PROFIBUS_DL]

LinkType Value 258
LinkType Name LINKTYPE_PKTAP
Description Apple PKTAP capture encapsulation
Reference [LINKTYPE_PKTAP]

LinkType Value 259
LinkType Name LINKTYPE_EPON
Description Ethernet-over-passive-optical-network packets, including preamble octets
Reference [LINKTYPE_EPON]

LinkType Value 260
LinkType Name LINKTYPE_IPMI_HPM_2
Description IPMI HPM.2 trace packets
Reference [LINKTYPE_IPMI_HPM_2]

LinkType Value 261
LinkType Name LINKTYPE_ZWAVE_R1_R2
Description Z-Wave RF profile R1 and R2 packets
Reference [LINKTYPE_ZWAVE_R1_R2]

LinkType Value 262
LinkType Name LINKTYPE_ZWAVE_R3
Description Z-Wave RF profile R3 packets
Reference [LINKTYPE_ZWAVE_R3]

LinkType Value 263
LinkType Name LINKTYPE_WATTSTOPPER_DLM
Description WattStopper Digital Lighting Management (DLM) and Legrand Nitoo Open protocol packets
Reference [LINKTYPE_WATTSTOPPER_DLM]

LinkType Value 264
LinkType Name LINKTYPE_ISO_14443
Description ISO 14443 contactless smartcard messages
Reference [ISO-14443-PCAP]

LinkType Value 265
LinkType Name LINKTYPE_RDS
Description IEC 62106 Radio data system (RDS) groups
Reference [LINKTYPE_RDS]

LinkType Value 266
LinkType Name LINKTYPE_USB_DARWIN
Description USB packets captured on a Darwin-based operating system (macOS, etc.)
Reference [LINKTYPE_USB_DARWIN]

LinkType Value 267
LinkType Name LINKTYPE_OPENFLOW
Description OpenBSD DLT_OPENFLOW

LinkType Value 268
LinkType Name LINKTYPE_SDLC
Description SNA SDLC packets
Reference [LINKTYPE_SDLC]

LinkType Value 269
LinkType Name LINKTYPE_TI_LLN_SNIFFER

Description Texas Instruments protocol sniffer

LinkType Value 270
LinkType Name LINKTYPE_LORATAP
Description LoRaWan packets with a LoRaTap pseudo-header
Reference [LINKTYPE_LORATAP]

LinkType Value 271
LinkType Name LINKTYPE_VSOCK
Description Protocol for communication between host and guest machines in VMware and KVM hypervisors
Reference [LINKTYPE_VSOCK]

LinkType Value 272
LinkType Name LINKTYPE_NORDIC_BLE
Description Messages to and from a Nordic Semiconductor nRF Sniffer for Bluetooth LE packets
Reference [LINKTYPE_NORDIC_BLE]

LinkType Value 273
LinkType Name LINKTYPE_DOCSIS31_XRA31
Description DOCSIS packets and bursts, preceded by a pseudo-header
Reference [DOCSIS-XRA] [DOCSIS-4.0-MULP]

LinkType Value 274
LinkType Name LINKTYPE_ETHERNET_MPACKET
Description IEEE 802.3 mPackets
Reference [LINKTYPE_ETHERNET_MPACKET]

LinkType Value 275
LinkType Name LINKTYPE_DISPLAYPORT_AUX
Description DisplayPort AUX channel monitoring messages
Reference [LINKTYPE_DISPLAYPORT_AUX]

LinkType Value 276
LinkType Name LINKTYPE_LINUX_SLL2
Description Linux cooked capture encapsulation v2
Reference [LINKTYPE_LINUX_SLL2]

LinkType Value 277
LinkType Name LINKTYPE_SERCOS_MONITOR
Description Sercos Monitor

LinkType Value 278
LinkType Name LINKTYPE_OPENVIZSLA
Description OpenVizsla FPGA-based USB sniffer
Reference [OpenVizsla]

LinkType Value 279
LinkType Name LINKTYPE_EBHSCR
Description Elektrobit High Speed Capture and Replay (EBHSCR) format
Reference [EBHSCR]

LinkType Value 280
LinkType Name LINKTYPE_VPP_DISPATCH
Description fd.io VPP graph dispatcher trace records
Reference [FD.io-VPP]

LinkType Value 281
LinkType Name LINKTYPE_DSA_TAG_BRCM
Description Ethernet frames, with a Broadcom switch tag inserted
Reference [LINKTYPE_DSA_TAG_BRCM]

LinkType Value 282
LinkType Name LINKTYPE_DSA_TAG_BRCM_PREPEND
Description Ethernet frames, with a Broadcom switch tag prepended
Reference [LINKTYPE_DSA_TAG_BRCM_PREPEND]

LinkType Value 283
LinkType Name LINKTYPE_IEEE802_15_4_TAP
Description IEEE 802.15.4 with a tap header preceding it
Reference [Exegin-802.15.4-TAP]

LinkType Value 284
LinkType Name LINKTYPE_DSA_TAG_DSA
Description Ethernet frames, with a Marvell DSA switch tag inserted
Reference [LINKTYPE_DSA_TAG_DSA]

LinkType Value 285
LinkType Name LINKTYPE_DSA_TAG_EDSA
Description Ethernet frames, with a Marvell EDSA switch tag inserted
Reference [LINKTYPE_DSA_TAG_EDSA]

LinkType Value 286
LinkType Name LINKTYPE_ELEE
Description ELEE lawful intercept protocol

LinkType Value 287
LinkType Name LINKTYPE_Z_WAVE_SERIAL
Description Serial frames transmitted between a host and a Z-Wave
chip over an RS-232 or USB serial connection
Reference [Z-WAVE-SERIAL] section 5

LinkType Value 288
LinkType Name LINKTYPE_USB_2_0
Description USB 2.0, 1.1, or 1.0 packets

Reference [LINKTYPE_USB_2_0]

LinkType Value 289
LinkType Name LINKTYPE_ATSC_ALP
Description ATSC Link-Layer Protocol frames
Reference [LINKTYPE_ATSC_ALP]

LinkType Value 290
LinkType Name LINKTYPE_ETW
Description Event Tracing for Windows messages
Reference [LINKTYPE_ETW]

LinkType Value 291
LinkType Name LINKTYPE_NETANALYZER_NG
Description Hilscher Gesellschaft fuer Systemautomation mbH
netANALYZER NG hardware and software

LinkType Value 292
LinkType Name LINKTYPE_ZBOSS_NCP
Description ZBOSS NCP Serial Protocol, with a pseudo-header
Reference [LINKTYPE_ZBOSS_NCP]

LinkType Value 293
LinkType Name LINKTYPE_USB_2_0_LOW_SPEED
Description Low-Speed USB 2.0, 1.1, or 1.0 packets
Reference [LINKTYPE_USB_2_0_LOW_SPEED]

LinkType Value 294
LinkType Name LINKTYPE_USB_2_0_FULL_SPEED
Description Full-Speed USB 2.0, 1.1, or 1.0 packets
Reference [LINKTYPE_USB_2_0_FULL_SPEED]

LinkType Value 295
LinkType Name LINKTYPE_USB_2_0_HIGH_SPEED
Description High-Speed USB 2.0 packets
Reference [LINKTYPE_USB_2_0_HIGH_SPEED]

LinkType Value 296
LinkType Name LINKTYPE_AUERSWALD_LOG
Description Auerswald Logger Protocol
Reference [Auerswald-Logger]

LinkType Value 297
LinkType Name LINKTYPE_ZWAVE_TAP
Description Z-Wave packets, with a metadata header
Reference [LINKTYPE_ZWAVE_TAP]

LinkType Value 298

LinkType Name LINKTYPE_SILABS_DEBUG_CHANNEL
Description Silicon Labs debug channel protocol
Reference [Silabs-Debug-Channel]

LinkType Value 299
LinkType Name LINKTYPE_FIRA_UCI
Description Ultra-wideband (UWB) controller interface protocol (UCI)
Reference [LINKTYPE_FIRA_UCI]

LinkType Value 300
LinkType Name LINKTYPE_MDB
Description MDB (Multi-Drop Bus) protocol
Reference [MDB-PCAP]

LinkType Value 301
LinkType Name LINKTYPE_DECT_NR
Description DECT-2020 New Radio (NR) MAC layer
Reference [LINKTYPE_DECT_NR]

2.2.2. Guidance for Designated Experts

When processing a request for an allocation, the Designated Experts will encourage the requester to provide a specification at a stable URL.

There is no requirement for a specification, but often review of the specification allows the Designated Expert to determine if the allocation actually is a duplicate of another specification.

When the contents of the link type can contain an IPv4 or IPv6 header, then the octets between the beginning of the link type and the IP header needs to be clearly specified.

Registrations for specifications that are not publicly available are acceptable. This includes specifications obtained via liaison agreements (such as to ITU-T, drafts, IEEE, etc.), those that may eventually be made public, or those for which no public document will be available.

The minimal requirement is to provide a contact for that link type.

For other documents, the Designated Expert will need use their judgement, or consult the OPSAWG or an Area Director.

3. Security Considerations

This document describes the IANA registration rules for the LinkType encapsulations. PCAP-related packet file formats use this value to determine what kind of headers precede network packet captures. Many of these formats can contain IPv4 and IPv6 packets. A system reading PCAP-related format captures can be subject to arbitrary inputs that may be controlled by malicious entities, so utmost caution is required.

Many LinkType formats include a "snapshot" length, which may be smaller than the actual packet. It is therefore very likely that trailing parts of a packet capture may be omitted, yet internal length fields in the packets will claim the packet is bigger than the capture. This leads to trivial buffer overreads, and systems interpreting the packets need to carefully scrutinize all attempts to read data from a capture.

4. Contributors

PCAP has been developed over three and half decades by a variety of developers, including: Bill Fenner, Denis Ovsienko, Francois-Xavier Le Bail, Fulvio Risso, Gerald Combs, Gianluca Varenni, Gisle Vanem, Hannes Gredler, Joerg Mayer, Michal Sekletar, Stephen Donnelly, Torsten Landschoff, and Jun-ichiro itojun Hagino.

PCAP was originally created at LBL by Steve McCanne, Craig Leres, and Van Jacobson.

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