

[Text to be inserted to clause 30 is marked below in blue]

30.3.2.1.2 aPhyType

ATTRIBUTE

APPROPRIATE SYNTAX:

Other	Undefined
unknown	Initializing, true state or type not yet known
none	MII present and nothing connected
2BASE-TL 10 Mb/s	Clause 61 0.5 Mb/s to 5.5 Mb/s 64/65-octet Clause 7 10 Mb/s Manchester
10PASS-TS	Clause 61 2.5 Mb/s to 100 Mb/s 64/65-octet
100BASE-T4	Clause 23 100 Mb/s 8B/6T
100BASE-X	Clause 24 or subclause 66.1 100 Mb/s 4B/5B
100BASE-T2	Clause 32 100 Mb/s PAM5X5
1000BASE-X	Clause 36 or subclause 66.2 1000 Mb/s 8B/10B
1000BASE-T	Clause 40 1000 Mb/s 4D-PAM5
10GBASE-X	Clause 48 10 Gb/s 4 lane 8B/10B
10GBASE-R	Clause 49 or clause 92 10 Gb/s 64B/66B
10GBASE-W	Clause 49 10 Gb/s 64B/66B and Clause 50 WIS

[note: for now 10GEAPON is an extension of 10GBASE-R. But this may change]

BEHAVIOUR DEFINED AS:

A read-only value that identifies the PHY type. The enumeration of the type is such that the value matches the clause number of this International Standard that specifies the particular PHY. The value of this attribute maps to the value of aMAUType. The enumeration “none” can only occur in a standard implementation where an MII exists and there is nothing connected. However, the attribute aMIIDetect should be used to determine whether an MII exists or not.;

30.3.2.1.3 aPhyTypeList

ATTRIBUTE

APPROPRIATE SYNTAX:

A SEQUENCE that meets the requirements of the description below:

other	Undefined
unknown	Initializing, true state or type not yet known
none	MII present and nothing connected
2BASE-TL 10 Mb/s	Clause 61 0.5 Mb/s to 5.5 Mb/s 64/65-octet Clause 7 10 Mb/s Manchester
10PASS-TS	Clause 61 2.5 Mb/s to 100 Mb/s 64/65-octet
100BASE-T4	Clause 23 100 Mb/s 8B/6T
100BASE-X	Clause 24 or subclause 66.1 100 Mb/s 4B/5B
100BASE-T2	Clause 32 100 Mb/s PAM5X5
1000BASE-X	Clause 36 or subclause 66.2 1000 Mb/s 8B/10B
1000BASE-T	Clause 40 1000 Mb/s 4D-PAM5
10GBASE-X	Clause 48 10 Gb/s 4 lane 8B/10B
10GBASE-R	Clause 49 or clause 92 10 Gb/s 64B/66B
10GBASE-W	Clause 49 10 Gb/s 64B/66B and Clause 50 WIS

[note: for now 10GEAPON is an extension of 10GBASE-R. But this may change]

BEHAVIOUR DEFINED AS:

A read-only list of the possible types that the PHY could be, identifying the ability of the PHY. If

Clause 28 or Clause 37, Auto-Negotiation, is present, then this attribute will map to the local technology ability or advertised ability of the local device.;

NOTE—At 10 Gb/s the ability of the PMD must be taken into account when reporting the possible types that the PHY could be.;

30.3.5.1.7 aMPCPMACCtrlFramesTransmitted

ATTRIBUTE

APPROPRIATE SYNTAX:

Generalized nonresettable counter. This counter has a maximum increment rate of 1 600 000 counts per second at 1000 Mb/s and 16 000 000 at 10Gb/s.

BEHAVIOUR DEFINED AS:

A count of MPCP frames passed to the MAC sublayer for transmission.
Increment counter by one when a MA_CONTROL.request service primitive is generated within the MAC Control sublayer with an opcode indicating an MPCP frame.;

[note: see 30.2.1 for info on increment rate]

[note: the same change should be made in each counter from 30.3.5.1.7 to 30.3.5.1.23]

30.5.1.1.2 aMAUType

ATTRIBUTE

APPROPRIATE SYNTAX:

A GET-SET ENUMERATION that meets the requirements of the following description:

Global	undefined
other	See 30.2.5
unknown	Initializing, true state or type not yet known
AUI	no internal MAU, view from AUI
2BASE-TL	Voice grade UTP PHY as specified in Clause 61 and 63
10BASE5	Thick coax MAU as specified in Clause 8
FOIRL	FOIRL MAU as specified in 9.9
10BASE2	Thin coax MAU as specified in Clause 10
10BROAD36	Broadband DTE MAU as specified in Clause 11
10BASE-T	UTP MAU as specified in Clause 14, duplex mode unknown
10BASE-THD	UTP MAU as specified in Clause 14, half duplex mode
10BASE-TFD	UTP MAU as specified in Clause 14, full duplex mode
10PASS-TS	Voice grade UTP PHY as specified in Clause 61 and 62
10BASE-FP	Passive fiber MAU as specified in Clause 16
10BASE-FB	Synchronous fiber MAU as specified in Clause 17
10BASE-FL	Asynchronous fiber MAU as specified in Clause 18, duplex mode unknown
10BASE-FLHD	Asynchronous fiber MAU as specified in Clause 18, half duplex mode
10BASE-FLFD	Asynchronous fiber MAU as specified in Clause 18, full duplex mode
100BASE-T4	Four-pair Category 3 UTP as specified in Clause 23
100BASE-TX	Two-pair Category 5 UTP as specified in Clause 25, duplex mode unknown
100BASE-TXHD	Two-pair Category 5 UTP as specified in Clause 25, half duplex mode
100BASE-TXFD	Two-pair Category 5 UTP as specified in Clause 25, full duplex mode
100BASE-BX10D	One single-mode fiber OLT PHY as specified in Clause 58
100BASE-BX10U	One single-mode fiber ONU PHY as specified in Clause 58
100BASE-FX	X fiber over PMD as specified in Clause 26, duplex mode unknown
100BASE-FXHD	X fiber over PMD as specified in Clause 26, half duplex mode
100BASE-FXFD	X fiber over PMD as specified in Clause 26, full duplex mode
100BASE-LX10	Two fiber PHY as specified in Clause 58

100BASE-T2	Two-pair Category 3 UTP as specified in Clause 32, duplex mode unknown
100BASE-T2HD	Two-pair Category 3 UTP as specified in Clause 32, half duplex mode
100BASE-T2FD	Two-pair Category 3 UTP as specified in Clause 32, full duplex mode
1000BASE-X	X PCS/PMA as specified in Clause 36 over undefined PMD, duplex mode unknown
1000BASE-BX10D	One single-mode fiber OLT PHY as specified in Clause 59
1000BASE-BX10U	One single-mode fiber ONU PHY as specified in Clause 59
1000BASE-XHD	X PCS/PMA as specified in Clause 36 over undefined PMD, half duplex mode
1000BASE-XFD	X PCS/PMA as specified in Clause 36 over undefined PMD, full duplex mode
1000BASE-LX	X fiber over long-wavelength laser PMD as specified in Clause 38, duplex mode unknown
1000BASE-LXHD	X fiber over long-wavelength laser PMD as specified in Clause 38, half duplex mode
1000BASE-LXFD	X fiber over long-wavelength laser PMD as specified in Clause 38, full duplex mode
1000BASE-LX10	Two fiber 10 km PHY as specified in Clause 59
1000BASE-PX10D	One single-mode fiber OMP OLT 10 km PHY as specified in Clause 60
1000BASE-PX10U	One single-mode fiber OMP ONU 10 km PHY as specified in Clause 60
1000BASE-PX20D	One single-mode fiber OMP OLT 20 km PHY as specified in Clause 60
1000BASE-PX20U	One single-mode fiber OMP ONU 20 km PHY as specified in Clause 60
1000BASE-SX	X fiber over short-wavelength laser PMD as specified in Clause 38, duplex mode unknown
1000BASE-SXHD	X fiber over short-wavelength laser PMD as specified in Clause 38, half duplex mode
1000BASE-SXFD	X fiber over short-wavelength laser PMD as specified in Clause 38, full duplex mode
1000BASE-CX	X copper over 150-Ohm balanced cable PMD as specified in Clause 39, duplex mode unknown
1000BASE-CXHD	X copper over 150-Ohm balanced cable PMD as specified in Clause 39, half duplex mode
1000BASE-CXFD	X copper over 150-Ohm balanced cable PMD as specified in Clause 39, full duplex mode
1000BASE-T	Four-pair Category 5 UTP PHY to be specified in Clause 40, duplex mode unknown
1000BASE-THD	Four-pair Category 5 UTP PHY to be specified in Clause 40, half duplex mode
1000BASE-TFD	Four-pair Category 5 UTP PHY to be specified in Clause 40, full duplex mode
10GBASE-X	X PCS/PMA as specified in Clause 48 over undefined PMD
10GBASE-LX4	X fiber over 4 lane 1310nm optics as specified in Clause 53
10GBASE-CX4	X copper over 8 pair 100-Ohm balanced cable as specified in Clause 54
10GBASE-R	R PCS/PMA as specified in Clause 49 or over undefined PMD
10GBASE-ER	R fiber over 1550nm optics as specified in Clause 52
10GBASE-LR	R fiber over 1310nm optics as specified in Clause 52
10GBASE-SR	R fiber over 850nm optics as specified in Clause 52
10GBASE-W	W PCS/PMA as specified in Clauses 49 and 50 over undefined PMD
10GBASE-EW	W fiber over 1550nm optics as specified in Clause 52
10GBASE-LW	W fiber over 1310nm optics as specified in Clause 52
10GBASE-SW	W fiber over 850nm optics as specified in Clause 52
802.9a	Integrated services MAU as specified in IEEE Std 802.9™ ISLAN-16T

[10/1GBASE-PRX-D1](#) One single-mode fiber 10.3125 GBd continuous downstream/ 1.25 GBd burst mode upstream OLT PHY as specified in Clause 91

[10/1GBASE-PRX-D2](#) One single-mode fiber 10.3125 GBd continuous downstream/ 1.25 GBd burst mode upstream OLT PHY as specified in Clause 91

10/1GBASE-PRX-D3 One single-mode fiber 10.3125 GBd continuous downstream/ 1.25 GBd burst mode upstream OLT PHY as specified in Clause 91

10/1GBASE-PRX-U1 One single-mode fiber 10.3125 GBd continuous downstream/ 1.25 GBd burst mode upstream ONU PHY as specified in Clause 91

10/1GBASE-PRX-U2 One single-mode fiber 10.3125 GBd continuous downstream/ 1.25 GBd burst mode upstream ONU PHY as specified in Clause 91

10/1GBASE-PRX-U3 One single-mode fiber 10.3125 GBd continuous downstream/ 1.25 GBd burst mode upstream ONU PHY as specified in Clause 91

10GBASE-PR-D1 One single-mode fiber 10.3125 GBd continuous downstream/ burst mode upstream OLT PHY as specified in Clause 91

10GBASE-PR-D2 One single-mode fiber 10.3125 GBd continuous downstream/ burst mode upstream OLT PHY as specified in Clause 91

10GBASE-PR-D3 One single-mode fiber 10.3125 GBd continuous downstream/ burst mode upstream OLT PHY as specified in Clause 91

10GBASE-PR-U1 One single-mode fiber 10.3125 GBd continuous downstream/ burst mode upstream ONU PHY as specified in Clause 91

10GBASE-PR-U2 One single-mode fiber 10.3125 GBd continuous downstream/ burst mode upstream ONU PHY as specified in Clause 91

10GBASE-PR-U3 One single-mode fiber 10.3125 GBd continuous downstream/ burst mode upstream ONU PHY as specified in Clause 91

BEHAVIOUR DEFINED AS:

Returns a value that identifies the internal MAU type. If an AUI is to be identified to access an external MAU, the type "AUI" is returned. A SET operation to one of the possible enumerations indicated by aMAUTypeList will force the MAU into the new operating mode. If a Clause 22 MII or Clause 35 GMII is present, then this will map to the mode force bits specified in 22.2.4.1. If a Clause 45 MDIO Interface is present, then this will map to the PCS type selection bit(s) in the 10G WIS Control 2 register specified in 45.2.2.6.6, the 10G PCS Control 2 register specified in 45.2.3.6.1, the PMA/PMD type selection bits in the 10G PMA/PMD Control 2 register specified in 45.2.1.6.1, the PMA/PMD control 1 register specified in 45.2.1.1 and the PCS control 1 register 45.2.3.1. If Clause 28 or Clause 37 Auto-Negotiation is operational, then this will change the advertised ability to the single enumeration specified in the SET operation, and cause an immediate link renegotiation. A change in the MAU type will also be reflected in aPHYType. The enumerations 1000BASE-X, 1000BASE-XHD, 1000BASE-XFD, 10GBASE-X, 10GBASE-R and 10GBASE-W shall only be returned if the underlying PMD type is unknown.;

30.5.1.1.15 aFECCorrectedBlocks

ATTRIBUTE

APPROPRIATE SYNTAX:

Generalized nonresetable counter. This counter has a maximum increment rate of 1 600 000 counts per second for 10Mb/s implementations and 500 000 counts per second for 1000 Mb/s

implementations.

BEHAVIOUR DEFINED AS:

For 1000BASE-PX, [10GBASE-PR](#), and [10GBASE-PRX-U](#) PHYs, a count of corrected FEC blocks. This counter will not increment for other PHY types.

Increment the counter by one for each received block that is corrected by the FEC function in the PHY.

If a Clause 45 MDIO Interface to the PCS is present, then this attribute will map to the FEC corrected blocks counter (see 45.2.7.5).;

[note: [802.3ap](#) has also modified this text, including the increment rate]

30.5.1.1.16 aFECUncorrectableBlocks

ATTRIBUTE

APPROPRIATE SYNTAX:

Generalized nonresetable counter. This counter has a maximum increment rate of 1 600 000 counts per second for 10Mb/s implementations and 500 000 counts per second for 1000 Mb/s implementations.

BEHAVIOUR DEFINED AS:

For 1000BASE-PX, [10GBASE-PR](#), and [10GBASE-PRX-U](#) PHYs, a count of uncorrectable FEC blocks. This counter will not increment for other PHY types.

Increment the counter by one for each FEC block that is determined to be uncorrectable by the FEC function in the PHY.

If a Clause 45 MDIO Interface to the PCS is present, then this attribute will map to the FEC uncorrectable blocks counter (see 45.2.7.6).;

[note: [802.3ap](#) has also modified this text - including the increment rate]