30. Management

Change the list of MAU types in 30.5.1.1.2, inserting new PMD types in the appropriate locations, as follows:

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 twisted-pair cabling 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	Twisted-pair cabling MAU as specified in Clause 14, duplex mode unknown
10BASE-THD	Twisted-pair cabling MAU as specified in Clause 14, half duplex mode
10BASE-TFD	Twisted-pair cabling MAU as specified in Clause 14, full duplex mode
10PASS-TS	Voice grade twisted-pair cabling 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 twisted-pair cabling as specified in Clause 23
100BASE-TX duplex mode	Two-pair Category 5 twisted-pair cabling as specified in Clause 25, unknown
100BASE-TXHD duplex mode	Two-pair Category 5 twisted-pair cabling as specified in Clause 25, half
100BASE-TXFD duplex mode	Two-pair Category 5 twisted-pair cabling as specified in Clause 25, full
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 twisted-pair cabling as specified in Clause 32, duplex mode unknown
100BASE-T2HD	Two-pair Category 3 twisted-pair cabling as specified in Clause 32, half duplex mode
100BASE-T2FD	Two-pair Category 3 twisted-pair cabling as specified in Clause 32, full duplex mode
1000BASE-X	X PCS/PMA as specified in Clause 36 over undefined PMD, duplex mode unknown

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1	1000BASE-BX10D	One single-mode fiber OLT PHY as specified in Clause 59
2	1000BASE-BX10U	One single-mode fiber ONU PHY as specified in Clause 59
3	1000BASE-XHD	X PCS/PMA as specified in Clause 36 over undefined PMD, half duplex
4		mode
5	1000BASE-XFD	X PCS/PMA as specified in Clause 36 over undefined PMD, full duplex
6		mode
7	1000BASE-LX	X fiber over long-wavelength laser PMD as specified in Clause 38,
8		duplex
9		mode unknown
10	1000BASE-LXHD	X fiber over long-wavelength laser PMD as specified in Clause 38, half
11		duplex mode
12	1000BASE-LXFD	X fiber over long-wavelength laser PMD as specified in Clause 38, full
13		duplex mode
14	1000BASE-LX10	Two fiber 10 km PHY as specified in Clause 59
15	1000BASE-PX10-D	One single-mode fiber OMP OLT ~~10 km~~ PHY, as specified in Clause 60,
16		supporting a distance of at least 10 km, and a split of at least 1:16
17	1000BASE-PX10-U	One single-mode fiber OMP ONU ~~10 km~~ PHY, as specified in Clause 60,
18		supporting a distance of at least 10 km, and a split of at least 1:16
19	1000BASE-PX20-D	One single-mode fiber OMP OLT ~~20 km~~ PHY, as specified in Clause 60,
20		supporting a distance of at least 20 km, and a split of at least 1:16
21	1000BASE-PX20-U	One single-mode fiber OMP ONU ~~20 km~~ PHY, as specified in Clause 60,
22		supporting a distance of at least 20 km, and a split of at least 1:16
23	1000BASE-PX30-D	One single-mode fiber OMP OLT PHY, as specified in Clause 60,
24		supporting a distance of at least 20 km, and a split of at least 1:32
25	1000BASE-PX30-U	One single-mode fiber OMP ONU PHY, as specified in Clause 60,
26		supporting a distance of at least 20 km, and a split of at least 1:32
27	1000BASE-PX40-D	One single-mode fiber OMP OLT PHY as specified in Clause 60,
28		supporting a distance of at least 20 km, and a split of at least 1:64
29	1000BASE-PX40-U	One single-mode fiber OMP ONU PHY as specified in Clause 60,
30		supporting a distance of at least 20 km, and a split of at least 1:64
31	1000BASE-SX	X fiber over short-wavelength laser PMD as specified in Clause 38,
32		duplex mode unknown
33	1000BASE-SXHD	X fiber over short-wavelength laser PMD as specified in Clause 38, half
34		duplex mode
35	1000BASE-SXFD	X fiber over short-wavelength laser PMD as specified in Clause 38, full
36		duplex mode
37	1000BASE-CX	X copper over 150-Ohm balanced cable PMD as specified in Clause 39,
38		duplex mode unknown
39	1000BASE-CXHD	X copper over 150-Ohm balanced cable PMD as specified in Clause 39,
40		half duplex mode
41	1000BASE-CXFD	X copper over 150-Ohm balanced cable PMD as specified in Clause 39,
42		full duplex mode
43	1000BASE-KX	X PCS/PMA over an electrical backplane PMD as specified in Clause 70
44	1000BASE-T	Four-pair Category 5 twisted-pair cabling PHY to be specified in
45		Clause 40, duplex mode unknown
46	1000BASE-THD	Four-pair Category 5 twisted-pair cabling PHY to be specified in
47		Clause 40, half duplex mode
48	1000BASE-TFD	Four-pair Category 5 twisted-pair cabling PHY to be specified in
49		Clause 40, full duplex mode
50	10GBASE-X	X PCS/PMA as specified in Clause 48 over undefined PMD
51	10GBASE-LX4	X fiber over 4 lane 1310nm optics as specified in Clause 53
52	10GBASE-CX4	X copper over 8 pair 100-Ohm balanced cable as specified in Clause 54
53	10GBASE-KX4	X PCS/PMA over an electrical backplane PMD as specified in Clause 71
54	10GBASE-R	R PCS/PMA as specified in Clause 49 over undefined PMD

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10GBASE-ER	R fiber over 1550nm optics as specified in Clause 52	1
10GBASE-LR	R fiber over 1310nm optics as specified in Clause 52	2
10GBASE-SR	R fiber over 850nm optics as specified in Clause 52	3
10GBASE-LRM	R fiber over 1310 nm optics as specified in Clause 68	4
10GBASE-KR	R PCS/PMA over an electrical backplane PMD as specified in Clause 72	5
10GBASE-W	W PCS/PMA as specified in Clauses 49 and 50 over undefined PMD	6
10GBASE-EW	W fiber over 1550nm optics as specified in Clause 52	7
10GBASE-LW	W fiber over 1310nm optics as specified in Clause 52	8
10GBASE-SW	W fiber over 850nm optics as specified in Clause 52	9
10GBASE-T	Four-pair twisted-pair balanced copper cabling PHY as specified in Clause 55	10 / 11
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 75	12 / 13
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 75	14 / 15
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 75	16 / 17
10/1GBASE–PRX–D4	One single-mode fiber 10.3125 GBd continuous downstream / 1.25 GBd burst mode upstream OLT PHY as specified in Clause 75	18 / 19
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 75	20 / 21
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 75	22 / 23
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 75	24 / 25
10/1GBASE–PRX–U4	One single-mode fiber 10.3125 GBd continuous downstream / 1.25 GBd burst mode upstream ONU PHY as specified in Clause 75	26 / 27
10GBASE–PR–D1	One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream OLT PHY as specified in Clause 75	28 / 29
10GBASE–PR–D2	One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream OLT PHY as specified in Clause 75	30 / 31
10GBASE–PR–D3	One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream OLT PHY as specified in Clause 75	32 / 33
10GBASE–PR–D4	One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream OLT PHY as specified in Clause 75	34 / 35
10GBASE–PR–U1	One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream ONU PHY as specified in Clause 75	36 / 37
10GBASE–PR–U3	One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream ONU PHY as specified in Clause 75	38 / 39
10GBASE–PR–U4	One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream ONU PHY as specified in Clause 75	40 / 41
40GBASE-R	Multi-lane PCS as specified in Clause 82 over undefined PMA/PMD	42
40GBASE-KR4	40GBASE-R PCS/PMA over an electrical backplane PMD as specified in Clause 84	43 / 44
40GBASE-CR4	40GBASE-R PCS/PMA over 4 lane shielded copper balanced cable PMD as specified in Clause 85	45 / 46
40GBASE-SR4	40GBASE-R PCS/PMA over 4 lane multimode fiber PMD as specified in Clause 86	47 / 48
40GBASE-LR4	40GBASE-R PCS/PMA over 4 WDM lane single mode fiber PMD, with long reach, as specified in Clause 87	49 / 50
40GBASE-FR	40GBASE-R PCS/PMA over single mode fiber PMD as specified in Clause 89	51 / 52
100GBASE-R	Multi-lane PCS as specified in Clause 82 over undefined PMA/PMD	53
100GBASE-CR10	100GBASE-R PCS/PMA over 10 lane shielded copper balanced cable PMD	54

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as specified in Clause 85

100GBASE-SR10   100GBASE-R PCS/PMA over 10 lane multimode fiber PMD as specified in Clause 86

100GBASE-LR4   100GBASE-R PCS/PMA over 4 WDM lane single mode fiber PMD, with long reach, as specified in Clause 88

100GBASE-ER4   100GBASE-R PCS/PMA over 4 WDM lane single mode fiber PMD, with extended reach, as specified in Clause 88

802.9a   Integrated services MAU as specified in IEEE Std 802.9 ISLAN-16T

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 PCS Control 2 register specified in 45.2.3.6.1, the PMA/PMD type selection bits in the 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, Clause 37, or Clause 73 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, 10GBASE-W, 40GBASE-R, and 100GBASE-R shall only be returned if the underlying PMD type is unknown.;

30.5.1.1.17 aFECCorrectedBlocks

ATTRIBUTE
APPROPRIATE SYNTAX:

A SEQUENCE of generalized nonresettable counters. Each counter has a maximum increment rate of 1 200 000 counts per second for 1000 Mb/s implementations, 5 000 000 counts per second for 10 Gb/s and 40 Gb/s implementations, and 2 500 000 counts per second for 100 Gb/s implementations.

BEHAVIOUR DEFINED AS:

For 1000BASE-PX, 10/40/100GBASE-R, 10GBASE-PR, or 10/1GBASE-PRX PHYs, an array of corrected FEC block counters. The counters willdoes not increment for other PHY types. The indices of this array (0 to N – 1) denote the PCS lane number where N is the number of PCS lanes in use. The number of PCS lanes in use is set to one for PHYs that do not use PCS lanes. Each element of this array contains a count of corrected FEC blocks for that PCS lane.

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

If a Clause 45 MDIO Interface to the PCS is present, then this attribute maps to the FEC corrected blocks counter(s) (see 45.2.8.5, and 45.2.1.91 for 10GBASE-R, 45.2.3.40 for 10GBASE-PR and 10/1GBASE-PRX, and 45.2.1.93 for BASE-R).;

30.5.1.1.18 aFECUncorrectableBlocks

ATTRIBUTE
APPROPRIATE SYNTAX:

A SEQUENCE of generalized nonresettable counters. Each counter has a maximum increment rate of 1 200 000 counts per second for 1000 Mb/s implementations, and 5 000 000 counts per second

for 10 Gb/s and 40 Gb/s implementations, and 2 500 000 counts per second for 100 Gb/s implementations.

BEHAVIOUR DEFINED AS:

For 1000BASE-PX PHYs or 10/40/100GBASE-R, 10GBASE-PR, or 10/1GBASE-PRX PHYs, an array of uncorrectable FEC block counters. The counters willdoes not increment for other PHY types. The indices of this array (0 to N − 1) denote the PCS lane number where N is the number of PCS lanes in use. The number of PCS lanes in use is set to one for PHYs that do not use PCS lanes. Each element of this array contains a count of uncorrectable FEC blocks for that PCS lane.

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

If a Clause 45 MDIO Interface to the PCS is present, then this attribute will map to the FEC uncorrectable blocks counter(s) (see 45.2.8.6, and 45.2.1.92 for 10GBASE-R, 45.2.3.41 for 10GBASE-PR and 10/1GBASE-PRX, and 45.2.1.94 for BASE-R).;

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