IEEE8023-EFM-CU-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-IDENTITY, OBJECT-TYPE, NOTIFICATION-TYPE, Integer32,

Unsigned32, Counter32, org

FROM SNMPv2-SMI -- [RFC2578]

TEXTUAL-CONVENTION, TruthValue, RowStatus, PhysAddress

FROM SNMPv2-TC -- [RFC2579]

MODULE-COMPLIANCE, OBJECT-GROUP, NOTIFICATION-GROUP

FROM SNMPv2-CONF -- [RFC2580]

SnmpAdminString

FROM SNMP-FRAMEWORK-MIB -- [RFC3411]

ifIndex, ifSpeed

FROM IF-MIB -- [RFC2863]

;

ieee8023efmCuMIB MODULE-IDENTITY

LAST-UPDATED "202307310000Z" – July 31, 2023

ORGANIZATION

"IEEE 802.3 Working Group"

CONTACT-INFO

" WG-URL: http://www.ieee802.org/3/index.html

WG-EMail: mailto:stds-802-3-dialog@ieee.org

Contact: IEEE 802.3 Working Group Chair

Postal: C/O IEEE 802.3 Working Group

IEEE Standards Association

445 Hoes Lane

Piscataway, NJ 08854

USA

E-mail: mailto:stds-802-3-dialog@ieee.org"

DESCRIPTION

"The objects in this MIB module are used to manage

the Ethernet in the First Mile (EFM) Copper (EFMCu) Interfaces

2BASE-TL and 10PASS-TS, defined in IEEE Std 802.3.

Of particular interest are Clause 61, 'Physical Coding

Sublayer (PCS) and common specifications, type 10PASS-TS and

type 2BASE-TL', Clause 30, 'Management', Clause 45,

'Management Data Input/Output (MDIO) Interface', Annex 62A,

'PMD profiles for 10PASS-TS' and Annex 63A, 'PMD profiles for

2BASE-TL'."

REVISION "202307310000Z" – July 31, 2023

DESCRIPTION

"Revision, based on an earlier version in IEEE Std 802.3.1-2013

addressing changes from IEEE Std 802.3 revisions 2012, 2015, 2018,

and 2022."

REVISION "201304110000Z" -- April 11, 2013

DESCRIPTION

"Revision, based on an earlier version in IEEE Std 802.3.1-2011."

REVISION "201102020000Z" -- February 2, 2011

DESCRIPTION

"Initial version, based on an earlier version published

as RFC 5066."

::= { org ieee(111) standards-association-numbers-series-standards(2)

lan-man-stds(802) ieee802dot3(3) ieee802dot3dot1mibs(1)

ieee8023efmcu(11) 2 }

-- Sections of the module

efmCuObjects OBJECT IDENTIFIER ::= { ieee8023efmCuMIB 1 }

efmCuConformance OBJECT IDENTIFIER ::= { ieee8023efmCuMIB 2 }

-- Groups in the module

efmCuPort OBJECT IDENTIFIER ::= { efmCuObjects 1 }

efmCuPme OBJECT IDENTIFIER ::= { efmCuObjects 2 }

-- Textual Conventions

EfmProfileIndex ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS current

DESCRIPTION

"A unique value, greater than zero, for each PME configuration

profile in the managed EFMCu port. Values should be assigned

contiguously starting from 1. The value for each profile shall

remain constant at least from one re-initialization of the

entity's network management system to the next re-initialization."

SYNTAX Unsigned32 (1..255)

EfmProfileIndexOrZero ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS current

DESCRIPTION

"This textual convention is an extension of the

EfmProfileIndex convention. The latter defines a greater than

zero value used to identify a PME profile in the managed EFMCu

port. This extension permits the additional value of zero.

The value of zero is object-specific and shall therefore be

defined as part of the description of any object that uses

this syntax.

Examples of the usage of zero value might include situations

where the current operational profile is unknown."

SYNTAX Unsigned32 (0..255)

EfmProfileIndexList ::= TEXTUAL-CONVENTION

DISPLAY-HINT "1d:"

STATUS current

DESCRIPTION

"This textual convention represents a list of up to 6

EfmProfileIndex values, any of which can be chosen for

configuration of a PME in a managed EFMCu port.

The EfmProfileIndex textual convention defines a greater than

zero value used to identify a PME profile.

The value of this object is a concatenation of zero or

more (up to 6) octets, where each octet contains an 8-bit

EfmProfileIndex value.

A zero-length octet string is object-specific and shall

therefore be defined as part of the description of any object

that uses this syntax. Examples of the usage of a zero-length

value might include situations where an object using this

textual convention is irrelevant for a specific EFMCu port

type."

SYNTAX OCTET STRING (SIZE(0..6))

EfmTruthValueOrUnknown ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This textual convention is an extension of the TruthValue

convention. The latter defines a Boolean value with possible

values of true(1) and false(2). This extension permits the

additional value of unknown(0), which can be returned as the

result of a GET operation when an exact true or false value

of the object cannot be determined."

SYNTAX INTEGER { unknown(0), true(1), false(2) }

-- Port Notifications Group

efmCuPortNotifications OBJECT IDENTIFIER ::= { efmCuPort 0 }

efmCuLowRateCrossing NOTIFICATION-TYPE

OBJECTS {

ifSpeed,

efmCuThreshLowRate

}

STATUS current

DESCRIPTION

"This notification indicates that the EFMCu port's data rate

has reached/dropped below or exceeded the low rate threshold,

specified by efmCuThreshLowRate.

This notification may be sent for the -O subtype ports

(2BaseTL-O/10PassTS-O) while the port is Up, on the crossing

event in both directions: from normal (rate is above the

threshold) to low (rate equals the threshold or below it) and

from low to normal. This notification is not applicable to

the -R subtypes.

A small debouncing period of 2.5 sec, between the detection

of the condition and the notification, should be implemented to

prevent simultaneous LinkUp/LinkDown and efmCuLowRateCrossing

notifications to be sent.

The adaptive nature of the EFMCu technology allows the port to

adapt itself to the changes in the copper environment, e.g.,

an impulse noise, alien crosstalk, or a micro-interruption may

temporarily drop one or more PMEs in the aggregation group,

causing a rate degradation of the aggregated EFMCu link.

The dropped PMEs would then try to re-initialize, possibly at

a lower rate than before, adjusting the rate to provide

required target SNR margin.

Generation of this notification is controlled by the

efmCuLowRateCrossingEnable object."

::= { efmCuPortNotifications 1 }

-- PCS Port group

efmCuPortConfTable OBJECT-TYPE

SYNTAX SEQUENCE OF EfmCuPortConfEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Table for Configuration of EFMCu 2BASE-TL/10PASS-TS (PCS)

Ports. Entries in this table shall be maintained in a

persistent manner."

::= { efmCuPort 1 }

efmCuPortConfEntry OBJECT-TYPE

SYNTAX EfmCuPortConfEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the EFMCu Port Configuration table.

Each entry represents an EFMCu port indexed by the ifIndex.

Note that an EFMCu PCS port runs on top of a single

or multiple PME port(s), which are also indexed by ifIndex."

INDEX { ifIndex }

::= { efmCuPortConfTable 1 }

EfmCuPortConfEntry ::=

SEQUENCE {

efmCuPAFAdminState INTEGER,

efmCuPAFDiscoveryCode PhysAddress,

efmCuAdminProfile EfmProfileIndexList,

efmCuTargetDataRate Unsigned32,

efmCuTargetSnrMgn Unsigned32,

efmCuAdaptiveSpectra TruthValue,

efmCuThreshLowRate Unsigned32,

efmCuLowRateCrossingEnable TruthValue

}

efmCuPAFAdminState OBJECT-TYPE

SYNTAX INTEGER {

enabled(1),

disabled(2)

}

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Administrative (desired) state of the PAF of the EFMCu port

(PCS).

When 'disabled', PME aggregation will not be performed by the

PCS. No more than a single PME can be assigned to this PCS in

this case.

When 'enabled', PAF will be performed by the PCS when the link

is Up, even on a single attached PME, if PAF is supported.

PCS ports incapable of supporting PAF shall return a value of

'disabled'. Attempts to 'enable' such ports shall be

rejected.

A PAF 'enabled' port with multiple PMEs assigned cannot be

'disabled'. Attempts to 'disable' such port shall be

rejected, until at most one PME is left assigned.

Changing PAFAdminState is a traffic-disruptive operation and

as such shall be done when the link is Down. Attempts to

change this object shall be rejected if the link is Up or

Initializing.

This object maps to IEEE Std 802.3, Clause 30 attribute aPAFAdminState.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present, then this

object maps to the PAF enable bit in the 10P/2B PCS control

register.

This object shall be maintained in a persistent manner."

REFERENCE

"IEEE Std 802.3, 61.2.2, 45.2.3.26.3"

::= { efmCuPortConfEntry 1 }

efmCuPAFDiscoveryCode OBJECT-TYPE

SYNTAX PhysAddress (SIZE(0|6))

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"PAF Discovery Code of the EFMCu port (PCS).

A unique 6-octet code used by the Discovery function,

when PAF is supported.

PCS ports incapable of supporting PAF shall return a

zero-length octet string on an attempt to read this object.

An attempt to write to this object shall be rejected for such

ports.

This object shall be instantiated for the -O subtype PCS before

writing operations on the efmCuPAFRemoteDiscoveryCode

(Set\_if\_Clear and Clear\_if\_Same) are performed by PMEs

associated with the PCS.

The initial value of this object for -R subtype ports after

reset is all zeros. For -R subtype ports, the value of this

object cannot be changed directly. This value may be changed

as a result of writing operation on the

efmCuPAFRemoteDiscoveryCode object of remote PME of -O

subtype, connected to one of the local PMEs associated with

the PCS.

Discovery shall be performed when the link is Down.

Attempts to change this object shall be rejected (in case of

SNMP with the error inconsistentValue), if the link is Up or

Initializing.

The PAF Discovery Code maps to the local Discovery code

variable in PAF (note that it does not have a corresponding

Clause 45 register)."

REFERENCE

"IEEE Std 802.3, 61.2.2.8.3, 61.2.2.8.4, 45.2.6.6.1, 45.2.6.8,

61A.2"

::= { efmCuPortConfEntry 2 }

efmCuAdminProfile OBJECT-TYPE

SYNTAX EfmProfileIndexList

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Desired configuration profile(s), common for all PMEs in the

EFMCu port. This object is a list of pointers to entries in

either efmCuPme2BProfileTable or

efmCuPme10PProfileTable, depending on the current

operating SubType of the EFMCu port as indicated by

efmCuPortSide.

The value of this object is a list of up to 6 indices of

profiles. If this list consists of a single profile index,

then all PMEs assigned to this EFMCu port shall be configured

according to the profile referenced by that index, unless it

is overwritten by a corresponding non-zero

efmCuPmeAdminProfile instance, which takes precedence over

efmCuAdminProfile.

A list consisting of more than one index allows each PME

in the port to be configured according to any profile

specified in the list.

By default, this object has a value of 0x01, referencing the

1st entry in efmCuPme2BProfileTable or

efmCuPme10PProfileTable.

This object is writeable and readable for the -O subtype

(2BaseTL-O or 10PassTS-O) EFMCu ports. It is irrelevant for

the -R subtype (2BaseTL-R or 10PassTS-R) ports -- a

zero-length octet string shall be returned on an attempt to

read this object and an attempt to change this object shall be

rejected in this case.

Note that the current operational profile value is available

via the efmCuPmeOperProfile object.

Any modification of this object shall be performed when the

link is Down. Attempts to change this object shall be

rejected, if the link is Up or Initializing.

Attempts to set this object to a list with a member value that

is not the value of the index for an active entry in the

corresponding profile table shall be rejected.

This object maps to IEEE Std 802.3, Clause 30 attribute aProfileSelect.

This object shall be maintained in a persistent manner."

REFERENCE

"IEEE Std 802.3, 30.11.2.1.6"

DEFVAL { '01'H }

::= { efmCuPortConfEntry 3 }

efmCuTargetDataRate OBJECT-TYPE

SYNTAX Unsigned32(1..100000|999999)

UNITS "Kbps"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Desired EFMCu port 'net' (as seen across MII) Data Rate in

kb/s, to be achieved during initialization, under spectral

restrictions placed on each PME via efmCuAdminProfile or

efmCuPmeAdminProfile, with the desired SNR margin specified by

efmCuTargetSnrMgn.

In case of PAF, this object represents a sum of individual PME

data rates, modified to compensate for fragmentation and

64/65-octet encapsulation overhead (e.g., target data rate of

10 Mb/s shall allow lossless transmission of a full-duplex

10 Mb/s Ethernet frame stream with minimal inter-frame gap).

The value is limited above by 100 Mb/s as this is the max

burst rate across MII for EFMCu ports.

The value between 1 and 100000 indicates that the total data

rate (ifSpeed) of the EFMCu port after initialization shall be

equal to the target data rate or less, if the target data rate

cannot be achieved under spectral restrictions specified by

efmCuAdminProfile/efmCuPmeAdminProfile and with the desired

SNR margin. In case the copper environment allows a higher

total data rate to be achieved than that specified by the

target, the excess capability shall be either converted to

additional SNR margin or reclaimed by minimizing transmit

power as controlled by efmCuAdaptiveSpectra.

The value of 999999 means that the target data rate is not

fixed and shall be set to the maximum attainable rate during

initialization (Best Effort), under specified spectral

restrictions and with the desired SNR margin.

This object is read-write for the -O subtype EFMCu ports

(2BaseTL-O/10PassTS-O) and not available for the -R subtypes.

Changing of the Target Data Rate shall be performed when the

link is Down. Attempts to change this object shall be rejected

(in case of SNMP with the error inconsistentValue), if the

link is Up or Initializing.

Note that the current Data Rate of the EFMCu port is

represented by the ifSpeed object of IF-MIB.

This object shall be maintained in a persistent manner."

::= { efmCuPortConfEntry 4 }

efmCuTargetSnrMgn OBJECT-TYPE

SYNTAX Unsigned32(0..21)

UNITS "dB"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Desired EFMCu port SNR margin to be achieved on all PMEs

assigned to the port, during initialization. (The SNR margin

is the difference between the desired SNR and the actual SNR.)

Note that IEEE Std 802.3 recommends using a default target SNR margin

of 5 dB for 2BASE-TL ports and 6 dB for 10PASS-TS ports in

order to achieve a mean bit error ratio (BER) of 10^-7 at the

PMA service interface.

This object is read-write for the -O subtype EFMCu ports

(2BaseTL-O/10PassTS-O) and not available for the -R subtypes.

Changing of the target SNR margin shall be performed when the

link is Down. Attempts to change this object shall be rejected

(in case of SNMP with the error inconsistentValue), if the

link is Up or Initializing.

Note that the current SNR margin of the PMEs comprising the

EFMCu port is represented by efmCuPmeSnrMgn.

This object shall be maintained in a persistent manner."

REFERENCE

"IEEE Std 802.3, 61.1.2"

::= { efmCuPortConfEntry 5 }

efmCuAdaptiveSpectra OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Indicates how to utilize excess capacity when the copper

environment allows a higher total data rate to be achieved

than that specified by the efmCuTargetDataRate.

A value of true(1) indicates that the excess capability shall

be reclaimed by minimizing transmit power, e.g., using higher

constellations and Power Back-Off, in order to reduce

interference to other copper pairs in the binder and the

adverse impact to link/system performance.

A value of false(2) indicates that the excess capability shall

be converted to additional SNR margin and spread evenly across

all active PMEs assigned to the (PCS) port, to increase link

robustness.

This object is read-write for the -O subtype EFMCu ports

(2BaseTL-O/10PassTS-O) and not available for the -R subtypes.

Changing of this object shall be performed when the link is

Down. Attempts to change this object shall be rejected (in

case of SNMP with the error inconsistentValue), if the link

is Up or Initializing.

This object shall be maintained in a persistent manner."

::= { efmCuPortConfEntry 6 }

efmCuThreshLowRate OBJECT-TYPE

SYNTAX Unsigned32(1..100000)

UNITS "Kbps"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object configures the EFMCu port low-rate crossing alarm

threshold. When the current value of ifSpeed for this port

reaches/drops below or exceeds this threshold, an

efmCuLowRateCrossing notification may be generated if enabled

by efmCuLowRateCrossingEnable.

This object is read-write for the -O subtype EFMCu ports

(2BaseTL-O/10PassTS-O) and not available for the -R subtypes.

This object shall be maintained in a persistent manner."

::= { efmCuPortConfEntry 7 }

efmCuLowRateCrossingEnable OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Indicates whether efmCuLowRateCrossing notifications should

be generated for this interface.

A value of true(1) indicates that efmCuLowRateCrossing

notification is enabled. A value of false(2) indicates that

the notification is disabled.

This object is read-write for the -O subtype EFMCu ports

(2BaseTL-O/10PassTS-O) and not available for the -R subtypes.

This object shall be maintained in a persistent manner."

::= { efmCuPortConfEntry 8 }

efmCuPortCapabilityTable OBJECT-TYPE

SYNTAX SEQUENCE OF EfmCuPortCapabilityEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Table for Capabilities of EFMCu 2BASE-TL/10PASS-TS (PCS)

Ports. Entries in this table shall be maintained in a

persistent manner"

::= { efmCuPort 2 }

efmCuPortCapabilityEntry OBJECT-TYPE

SYNTAX EfmCuPortCapabilityEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the EFMCu Port Capability table.

Each entry represents an EFMCu port indexed by the ifIndex.

Note that an EFMCu PCS port runs on top of a single

or multiple PME port(s), which are also indexed by ifIndex."

INDEX { ifIndex }

::= { efmCuPortCapabilityTable 1 }

EfmCuPortCapabilityEntry ::=

SEQUENCE {

efmCuPAFSupported TruthValue,

efmCuPeerPAFSupported EfmTruthValueOrUnknown,

efmCuPAFCapacity Unsigned32,

efmCuPeerPAFCapacity Unsigned32

}

efmCuPAFSupported OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"PME Aggregation Function (PAF) capability of the EFMCu port

(PCS).

This object has a value of true(1) when the PCS can perform

PME aggregation on the available PMEs.

Ports incapable of PAF shall return a value of false(2).

This object maps to IEEE Std 802.3, Clause 30 attribute aPAFSupported.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present,

then this object maps to the PAF available bit in the

10P/2B capability register."

REFERENCE

"IEEE Std 802.3, 61.2.2, 30.11.1.1.4, 45.2.3.25.1"

::= { efmCuPortCapabilityEntry 1 }

efmCuPeerPAFSupported OBJECT-TYPE

SYNTAX EfmTruthValueOrUnknown

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"PME Aggregation Function (PAF) capability of the EFMCu port

(PCS) link partner.

This object has a value of true(1) when the remote PCS can

perform PME aggregation on its available PMEs.

Ports whose peers are incapable of PAF shall return a value

of false(2).

Ports whose peers cannot be reached because of the link

state shall return a value of unknown(0).

This object maps to IEEE Std 802.3, Clause 30 attribute

aRemotePAFSupported.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present, then

this object maps to the Remote PAF supported bit in the

10P/2B capability register."

REFERENCE

"IEEE Std 802.3, 61.2.2, 30.11.1.1.9, 45.2.3.25.2"

::= { efmCuPortCapabilityEntry 2 }

efmCuPAFCapacity OBJECT-TYPE

SYNTAX Unsigned32 (1..32)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of PMEs that can be aggregated by the local PAF.

The number of PMEs currently assigned to a particular

EFMCu port (efmCuNumPMEs) is never greater than

efmCuPAFCapacity.

This object maps to IEEE Std 802.3, Clause 30 attribute

aLocalPAFCapacity."

REFERENCE

"IEEE Std 802.3, 61.2.2, 30.11.1.1.6"

::= { efmCuPortCapabilityEntry 3 }

efmCuPeerPAFCapacity OBJECT-TYPE

SYNTAX Unsigned32 (0|1..32)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of PMEs that can be aggregated by the PAF of the peer

PHY (PCS port).

A value of 0 is returned when peer PAF capacity is unknown

(peer cannot be reached).

This object maps to IEEE Std 802.3, Clause 30 attribute

aRemotePAFCapacity."

REFERENCE

"IEEE Std 802.3, 61.2.2, 30.11.1.1.10"

::= { efmCuPortCapabilityEntry 4 }

efmCuPortStatusTable OBJECT-TYPE

SYNTAX SEQUENCE OF EfmCuPortStatusEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table provides overall status information of EFMCu

2BASE-TL/10PASS-TS ports, complementing the generic status

information from the ifTable of IF-MIB and ifMauTable of the

MAU-MIB module. Additional status information about connected PMEs

is available from the efmCuPmeStatusTable.

This table contains live data from the equipment. As such,

it is not persistent."

::= { efmCuPort 3 }

efmCuPortStatusEntry OBJECT-TYPE

SYNTAX EfmCuPortStatusEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the EFMCu Port Status table.

Each entry represents an EFMCu port indexed by the ifIndex.

Note that an EFMCu PCS port runs on top of a single

or multiple PME port(s), which are also indexed by ifIndex."

INDEX { ifIndex }

::= { efmCuPortStatusTable 1 }

EfmCuPortStatusEntry ::=

SEQUENCE {

efmCuFltStatus BITS,

efmCuPortSide INTEGER,

efmCuNumPMEs Unsigned32,

efmCuPAFInErrors Counter32,

efmCuPAFInSmallFragments Counter32,

efmCuPAFInLargeFragments Counter32,

efmCuPAFInBadFragments Counter32,

efmCuPAFInLostFragments Counter32,

efmCuPAFInLostStarts Counter32,

efmCuPAFInLostEnds Counter32,

efmCuPAFInOverflows Counter32

}

efmCuFltStatus OBJECT-TYPE

SYNTAX BITS {

noPeer(0),

peerPowerLoss(1),

pmeSubTypeMismatch(2),

lowRate(3)

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"EFMCu (PCS) port Fault Status. This is a bitmap of possible

conditions. The various bit positions are:

noPeer - the peer PHY cannot be reached (e.g.,

no PMEs attached, all PMEs are Down,

etc.). More info is available in

efmCuPmeFltStatus.

peerPowerLoss - the peer PHY has indicated impending

unit failure due to loss of local

power ('Dying Gasp').

pmeSubTypeMismatch - local PMEs in the aggregation group

are not of the same subtype, e.g.,

some PMEs in the local device are -O

while others are -R subtype.

lowRate - ifSpeed of the port reached or dropped

below efmCuThreshLowRate.

This object is intended to supplement the ifOperStatus object

in IF-MIB and ifMauMediaAvailable in the MAU-MIB module.

Additional information is available via the efmCuPmeFltStatus

object for each PME in the aggregation group (single PME if

PAF is disabled)."

REFERENCE

"IF-MIB, ifOperStatus; MAU-MIB, ifMauMediaAvailable;

efmCuPmeFltStatus"

::= { efmCuPortStatusEntry 1 }

efmCuPortSide OBJECT-TYPE

SYNTAX INTEGER {

subscriber(1),

office(2),

unknown(3)

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"EFM port mode of operation (subtype).

The value of 'subscriber' indicates that the port is

designated as '-R' subtype (all PMEs assigned to this port are

of subtype '-R').

The value of the 'office' indicates that the port is

designated as '-O' subtype (all PMEs assigned to this port are

of subtype '-O').

The value of 'unknown' indicates that the port has no assigned

PMEs yet or that the assigned PMEs are not of the same side

(subTypePMEMismatch).

This object partially maps to IEEE Std 802.3, Clause 30 attribute

aPhyEnd."

REFERENCE

"IEEE Std 802.3, 61.1, 30.11.1.1.2"

::= { efmCuPortStatusEntry 2 }

efmCuNumPMEs OBJECT-TYPE

SYNTAX Unsigned32 (0..32)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of PMEs that is currently aggregated by the local

PAF (assigned to the EFMCu port using the ifStackTable).

This number is never greater than efmCuPAFCapacity.

This object shall be automatically incremented or decremented

when a PME is added or deleted to/from the EFMCu port using

the ifStackTable."

REFERENCE

"IEEE Std 802.3, 61.2.2, 30.11.1.1.6"

::= { efmCuPortStatusEntry 3 }

efmCuPAFInErrors OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of fragments that have been received across the

gamma interface with RxErr asserted and discarded.

This read-only counter is inactive (not incremented) when the

PAF is unsupported or disabled. Upon disabling the PAF, the

counter retains its previous value.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present, then

this object maps to the 10P/2B PAF RX error register.

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 45.2.3.29"

::= { efmCuPortStatusEntry 4 }

efmCuPAFInSmallFragments OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of fragments smaller than minFragmentSize

(64 bytes) that have been received across the gamma interface

and discarded.

This read-only counter is inactive when the PAF is

unsupported or disabled. Upon disabling the PAF, the counter

retains its previous value.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present, then

this object maps to the 10P/2B PAF small fragments register.

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 45.2.3.30"

::= { efmCuPortStatusEntry 5 }

efmCuPAFInLargeFragments OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of fragments larger than maxFragmentSize

(512 bytes) that have been received across the gamma interface

and discarded.

This read-only counter is inactive when the PAF is

unsupported or disabled. Upon disabling the PAF, the counter

retains its previous value.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present, then

this object maps to the 10P/2B PAF large fragments register.

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 45.2.3.31"

::= { efmCuPortStatusEntry 6 }

efmCuPAFInBadFragments OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of fragments that do not fit into the sequence

expected by the frame assembly function and that have been

received across the gamma interface and discarded (the

frame buffer is flushed to the next valid frame start).

This read-only counter is inactive when the PAF is

unsupported or disabled. Upon disabling the PAF, the counter

retains its previous value.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present, then

this object maps to the 10P/2B PAF bad fragments register.

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 45.2.3.33"

::= { efmCuPortStatusEntry 7 }

efmCuPAFInLostFragments OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of gaps in the sequence of fragments that have

been received across the gamma interface (the frame buffer is

flushed to the next valid frame start, when fragment/fragments

expected by the frame assembly function is/are not received).

This read-only counter is inactive when the PAF is

unsupported or disabled. Upon disabling the PAF, the counter

retains its previous value.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present, then

this object maps to the 10P/2B PAF lost fragment register.

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 45.2.3.34"

::= { efmCuPortStatusEntry 8 }

efmCuPAFInLostStarts OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of missing StartOfPacket indicators expected by

the frame assembly function.

This read-only counter is inactive when the PAF is

unsupported or disabled. Upon disabling the PAF, the counter

retains its previous value.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present, then

this object maps to the 10P/2B PAF lost start of fragment

register.

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 45.2.3.35"

::= { efmCuPortStatusEntry 9 }

efmCuPAFInLostEnds OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of missing EndOfPacket indicators expected by the

frame assembly function.

This read-only counter is inactive when the PAF is

unsupported or disabled. Upon disabling the PAF, the counter

retains its previous value.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present, then

this object maps to the 10P/2B PAF lost ends of fragments

register.

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 45.2.3.36"

::= { efmCuPortStatusEntry 10 }

efmCuPAFInOverflows OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of fragments, received across the gamma interface

and discarded, which would have caused the frame assembly

buffer to overflow.

This read-only counter is inactive when the PAF is

unsupported or disabled. Upon disabling the PAF, the counter

retains its previous value.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present, then

this object maps to the 10P/2B PAF overflow register.

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 45.2.3.32"

::= { efmCuPortStatusEntry 11 }

-- PME Notifications Group

efmCuPmeNotifications OBJECT IDENTIFIER ::= { efmCuPme 0 }

efmCuPmeLineAtnCrossing NOTIFICATION-TYPE

OBJECTS {

efmCuPmeLineAtn,

efmCuPmeThreshLineAtn

}

STATUS current

DESCRIPTION

"This notification indicates that the loop attenuation

threshold (as per the efmCuPmeThreshLineAtn

value) has been reached/exceeded for the 2BASE-TL/10PASS-TS

PME. This notification may be sent on the crossing event in

both directions: from normal to exceeded and from exceeded

to normal.

A small debouncing period of 2.5 sec, between the detection

of the condition and the notification, should be implemented

to prevent intermittent notifications from being sent.

Generation of this notification is controlled by the

efmCuPmeLineAtnCrossingEnable object."

::= { efmCuPmeNotifications 1 }

efmCuPmeSnrMgnCrossing NOTIFICATION-TYPE

OBJECTS {

efmCuPmeSnrMgn,

efmCuPmeThreshSnrMgn

}

STATUS current

DESCRIPTION

"This notification indicates that the SNR margin threshold

(as per the efmCuPmeThreshSnrMgn value) has been

reached/exceeded for the 2BASE-TL/10PASS-TS PME.

This notification may be sent on the crossing event in

both directions: from normal to exceeded and from exceeded

to normal.

A small debouncing period of 2.5 sec, between the detection

of the condition and the notification, should be implemented

to prevent intermittent notifications from being sent.

Generation of this notification is controlled by the

efmCuPmeSnrMgnCrossingEnable object."

::= { efmCuPmeNotifications 2 }

efmCuPmeDeviceFault NOTIFICATION-TYPE

OBJECTS {

efmCuPmeFltStatus

}

STATUS current

DESCRIPTION

"This notification indicates that a fault in the PME has been

detected by a vendor-specific diagnostic or a self-test.

Generation of this notification is controlled by the

efmCuPmeDeviceFaultEnable object."

::= { efmCuPmeNotifications 3 }

efmCuPmeConfigInitFailure NOTIFICATION-TYPE

OBJECTS {

efmCuPmeFltStatus,

efmCuAdminProfile,

efmCuPmeAdminProfile

}

STATUS current

DESCRIPTION

"This notification indicates that PME initialization has

failed, due to inability of the PME link to achieve the

requested configuration profile.

Generation of this notification is controlled by the

efmCuPmeConfigInitFailEnable object."

::= { efmCuPmeNotifications 4 }

efmCuPmeProtocolInitFailure NOTIFICATION-TYPE

OBJECTS {

efmCuPmeFltStatus,

efmCuPmeOperSubType

}

STATUS current

DESCRIPTION

"This notification indicates that the peer PME was using

an incompatible protocol during initialization.

Generation of this notification is controlled by the

efmCuPmeProtocolInitFailEnable object."

::= { efmCuPmeNotifications 5 }

-- The PME group

efmCuPmeConfTable OBJECT-TYPE

SYNTAX SEQUENCE OF EfmCuPmeConfEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Table for Configuration of common aspects for EFMCu

2BASE-TL/10PASS-TS PME ports (modems). Configuration of

aspects specific to 2BASE-TL or 10PASS-TS PME types is

represented in efmCuPme2BConfTable and efmCuPme10PConfTable,

respectively.

Entries in this table shall be maintained in a persistent

manner."

::= { efmCuPme 1 }

efmCuPmeConfEntry OBJECT-TYPE

SYNTAX EfmCuPmeConfEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the EFMCu PME Configuration table.

Each entry represents common aspects of an EFMCu PME port

indexed by the ifIndex. Note that an EFMCu PME port can be

stacked below a single PCS port, also indexed by ifIndex,

possibly together with other PME ports if PAF is enabled."

INDEX { ifIndex }

::= { efmCuPmeConfTable 1 }

EfmCuPmeConfEntry ::=

SEQUENCE {

efmCuPmeAdminSubType INTEGER,

efmCuPmeAdminProfile EfmProfileIndexOrZero,

efmCuPAFRemoteDiscoveryCode PhysAddress,

efmCuPmeThreshLineAtn Integer32,

efmCuPmeThreshSnrMgn Integer32,

efmCuPmeLineAtnCrossingEnable TruthValue,

efmCuPmeSnrMgnCrossingEnable TruthValue,

efmCuPmeDeviceFaultEnable TruthValue,

efmCuPmeConfigInitFailEnable TruthValue,

efmCuPmeProtocolInitFailEnable TruthValue

}

efmCuPmeAdminSubType OBJECT-TYPE

SYNTAX INTEGER {

ieee2BaseTLO(1),

ieee2BaseTLR(2),

ieee10PassTSO(3),

ieee10PassTSR(4),

ieee2BaseTLor10PassTSR(5),

ieee2BaseTLor10PassTSO(6),

ieee10PassTSor2BaseTLO(7)

}

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Administrative (desired) subtype of the PME.

Possible values are:

ieee2BaseTLO - PME shall operate as 2BaseTL-O

ieee2BaseTLR - PME shall operate as 2BaseTL-R

ieee10PassTSO - PME shall operate as 10PassTS-O

ieee10PassTSR - PME shall operate as 10PassTS-R

ieee2BaseTLor10PassTSR - PME shall operate as 2BaseTL-R or

10PassTS-R. The actual value will

be set by the -O link partner

during initialization (handshake).

ieee2BaseTLor10PassTSO - PME shall operate as 2BaseTL-O

(preferred) or 10PassTS-O. The

actual value will be set during

initialization depending on the -R

link partner capability (i.e., if

-R is incapable of the preferred

2BaseTL mode, 10PassTS will be

used).

ieee10PassTSor2BaseTLO - PME shall operate as 10PassTS-O

(preferred) or 2BaseTL-O. The

actual value will be set during

initialization depending on the -R

link partner capability (i.e., if

-R is incapable of the preferred

10PassTS mode, 2BaseTL will be

used).

Changing efmCuPmeAdminSubType is a traffic-disruptive

operation and as such shall be done when the link is Down.

Attempts to change this object shall be rejected if the link

is Up or Initializing.

Attempts to change this object to an unsupported subtype

(see efmCuPmeSubTypesSupported) shall be rejected.

The current operational subtype is indicated by the

efmCuPmeOperSubType variable.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PMA/PMD is present, then

this object combines values of the Port subtype select bits

and the PMA/PMD type selection bits in the 10P/2B PMA/PMD

control register."

REFERENCE

"IEEE Std 802.3, 61.1, 45.2.1.14.4, 45.2.1.14.7"

::= { efmCuPmeConfEntry 1 }

efmCuPmeAdminProfile OBJECT-TYPE

SYNTAX EfmProfileIndexOrZero

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Desired PME configuration profile. This object is a pointer

to an entry in either the efmCuPme2BProfileTable or the

efmCuPme10PProfileTable, depending on the current operating

SubType of the PME. The value of this object is the index of

the referenced profile.

The value of zero (default) indicates that the PME is

configured via the efmCuAdminProfile object for the PCS port

to which this PME is assigned. That is, the profile

referenced by efmCuPmeAdminProfile takes precedence

over the profile(s) referenced by efmCuAdminProfile.

This object is writeable and readable for the CO subtype PMEs

(2BaseTL-O or 10PassTS-O). It is irrelevant for the CPE

subtype (2BaseTL-R or 10PassTS-R) -- a zero value shall be

returned on an attempt to read this object and any attempt

to change this object shall be rejected in this case.

Note that the current operational profile value is available

via efmCuPmeOperProfile object.

Any modification of this object shall be performed when the

link is Down. Attempts to change this object shall be

rejected, if the link is Up or Initializing.

Attempts to set this object to a value that is not the value

of the index for an active entry in the corresponding profile

table shall be rejected.

This object maps to IEEE Std 802.3, Clause 30 attribute aProfileSelect.

This object shall be maintained in a persistent manner."

REFERENCE

"IEEE Std 802.3, 30.11.2.1.6"

DEFVAL { 0 }

::= { efmCuPmeConfEntry 2 }

efmCuPAFRemoteDiscoveryCode OBJECT-TYPE

SYNTAX PhysAddress (SIZE(0|6))

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"PAF Remote Discovery Code of the PME port at the CO.

The 6-octet Discovery Code of the peer PCS connected via

the PME.

Reading this object results in a Discovery Get operation.

Setting this object to all zeros results in a Discovery

Clear\_if\_Same operation (the value of efmCuPAFDiscoveryCode

at the peer PCS shall be the same as efmCuPAFDiscoveryCode of

the local PCS associated with the PME for the operation to

succeed).

Writing a non-zero value to this object results in a

Discovery Set\_if\_Clear operation.

A zero-length octet string shall be returned on an attempt to

read this object when PAF aggregation is not enabled.

This object is irrelevant in CPE port (-R) subtypes: in this

case, a zero-length octet string shall be returned on an

attempt to read this object; writing to this object shall

be rejected.

Discovery shall be performed when the link is Down.

Attempts to change this object shall be rejected (in case of

SNMP with the error inconsistentValue), if the link is Up or

Initializing.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PMA/PMD is present, then

this object is a function of 10P/2B aggregation discovery

control register, Discovery operation result bits in 10P/2B

aggregation and discovery status register and

10P/2B aggregation discovery code register."

REFERENCE

"IEEE Std 802.3, 61.2.2.8.4, 45.2.6.6 to 45.2.6.8"

::= { efmCuPmeConfEntry 3 }

efmCuPmeThreshLineAtn OBJECT-TYPE

SYNTAX Integer32(-127..128)

UNITS "dB"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Desired Line Attenuation threshold for the 2B/10P PME.

This object configures the line attenuation alarm threshold.

When the current value of Line Attenuation reaches or

exceeds this threshold, an efmCuPmeLineAtnCrossing

notification may be generated, if enabled by

efmCuPmeLineAtnCrossingEnable.

This object is writeable for the CO subtype PMEs (-O).

It is read-only for the CPE subtype (-R).

Changing of the Line Attenuation threshold shall be performed

when the link is Down. Attempts to change this object shall be

rejected (in case of SNMP with the error inconsistentValue),

if the link is Up or Initializing.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PME is present, then this

object maps to the loop attenuation threshold bits in

the 2B PMD line quality thresholds register."

REFERENCE

"IEEE Std 802.3, 45.2.1.23"

::= { efmCuPmeConfEntry 4 }

efmCuPmeThreshSnrMgn OBJECT-TYPE

SYNTAX Integer32(-127..128)

UNITS "dB"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Desired SNR margin threshold for the 2B/10P PME.

This object configures the SNR margin alarm threshold.

When the current value of SNR margin reaches or exceeds this

threshold, an efmCuPmeSnrMgnCrossing notification may be

generated, if enabled by efmCuPmeSnrMgnCrossingEnable.

This object is writeable for the CO subtype PMEs

(2BaseTL-O/10PassTS-O). It is read-only for the CPE subtype

(2BaseTL-R/10PassTS-R).

Changing of the SNR margin threshold shall be performed when

the link is Down. Attempts to change this object shall be

rejected (in case of SNMP with the error inconsistentValue),

if the link is Up or Initializing.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PME is present, then this

object maps to the SNR margin threshold bits in the 2B PMD

line quality thresholds register."

REFERENCE

"IEEE Std 802.3, 45.2.1.23"

::= { efmCuPmeConfEntry 5 }

efmCuPmeLineAtnCrossingEnable OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Indicates whether efmCuPmeLineAtnCrossing notifications

should be generated for this interface.

A value of true(1) indicates that efmCuPmeLineAtnCrossing

notification is enabled. A value of false(2) indicates that

the notification is disabled."

::= { efmCuPmeConfEntry 6 }

efmCuPmeSnrMgnCrossingEnable OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Indicates whether efmCuPmeSnrMgnCrossing notifications

should be generated for this interface.

A value of true(1) indicates that efmCuPmeSnrMgnCrossing

notification is enabled. A value of false(2) indicates that

the notification is disabled."

::= { efmCuPmeConfEntry 7 }

efmCuPmeDeviceFaultEnable OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Indicates whether efmCuPmeDeviceFault notifications

should be generated for this interface.

A value of true(1) indicates that efmCuPmeDeviceFault

notification is enabled. A value of false(2) indicates that

the notification is disabled."

::= { efmCuPmeConfEntry 8 }

efmCuPmeConfigInitFailEnable OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Indicates whether efmCuPmeConfigInitFailure notifications

should be generated for this interface.

A value of true(1) indicates that efmCuPmeConfigInitFailure

notification is enabled. A value of false(2) indicates that

the notification is disabled."

::= { efmCuPmeConfEntry 9 }

efmCuPmeProtocolInitFailEnable OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Indicates whether efmCuPmeProtocolInitFailure notifications

should be generated for this interface.

A value of true(1) indicates that efmCuPmeProtocolInitFailure

notification is enabled. A value of false(2) indicates that

the notification is disabled."

::= { efmCuPmeConfEntry 10 }

efmCuPmeCapabilityTable OBJECT-TYPE

SYNTAX SEQUENCE OF EfmCuPmeCapabilityEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Table for the configuration of common aspects for EFMCu

2BASE-TL/10PASS-TS PME ports (modems). The configuration of

aspects specific to 2BASE-TL or 10PASS-TS PME types is

represented in the efmCuPme2BConfTable and the

efmCuPme10PConfTable, respectively.

Entries in this table shall be maintained in a persistent

manner."

::= { efmCuPme 2 }

efmCuPmeCapabilityEntry OBJECT-TYPE

SYNTAX EfmCuPmeCapabilityEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the EFMCu PME Capability table.

Each entry represents common aspects of an EFMCu PME port

indexed by the ifIndex. Note that an EFMCu PME port can be

stacked below a single PCS port, also indexed by ifIndex,

possibly together with other PME ports if PAF is enabled."

INDEX { ifIndex }

::= { efmCuPmeCapabilityTable 1 }

EfmCuPmeCapabilityEntry ::=

SEQUENCE {

efmCuPmeSubTypesSupported BITS

}

efmCuPmeSubTypesSupported OBJECT-TYPE

SYNTAX BITS {

ieee2BaseTLO(0),

ieee2BaseTLR(1),

ieee10PassTSO(2),

ieee10PassTSR(3)

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"PME supported subtypes. This is a bitmap of possible

subtypes. The various bit positions are:

ieee2BaseTLO - PME is capable of operating as 2BaseTL-O

ieee2BaseTLR - PME is capable of operating as 2BaseTL-R

ieee10PassTSO - PME is capable of operating as 10PassTS-O

ieee10PassTSR - PME is capable of operating as 10PassTS-R

The desired mode of operation is determined by

efmCuPmeAdminSubType, while efmCuPmeOperSubType reflects the

current operating mode.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PCS is present, then this

object combines the 10PASS-TS capable and 2BASE-TL capable

bits in the 10P/2B PMA/PMD speed ability register and the

CO supported and CPE supported bits in the 10P/2B PMA/PMD

status register."

REFERENCE

"IEEE Std 802.3, 61.1, 45.2.1.4.7, 45.2.1.4.8, 45.2.1.15.2,

45.2.1.15.3"

::= { efmCuPmeCapabilityEntry 1 }

efmCuPmeStatusTable OBJECT-TYPE

SYNTAX SEQUENCE OF EfmCuPmeStatusEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table provides common status information of EFMCu

2BASE-TL/10PASS-TS PME ports. Status information specific

to 10PASS-TS PME is represented in efmCuPme10PStatusTable.

This table contains live data from the equipment. As such,

it is not persistent."

::= { efmCuPme 3 }

efmCuPmeStatusEntry OBJECT-TYPE

SYNTAX EfmCuPmeStatusEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the EFMCu PME Status table.

Each entry represents common aspects of an EFMCu PME port

indexed by the ifIndex. Note that an EFMCu PME port can be

stacked below a single PCS port, also indexed by ifIndex,

possibly together with other PME ports if PAF is enabled."

INDEX { ifIndex }

::= { efmCuPmeStatusTable 1 }

EfmCuPmeStatusEntry ::=

SEQUENCE {

efmCuPmeOperStatus INTEGER,

efmCuPmeFltStatus BITS,

efmCuPmeOperSubType INTEGER,

efmCuPmeOperProfile EfmProfileIndexOrZero,

efmCuPmeSnrMgn Integer32,

efmCuPmePeerSnrMgn Integer32,

efmCuPmeLineAtn Integer32,

efmCuPmePeerLineAtn Integer32,

efmCuPmeEquivalentLength Unsigned32,

efmCuPmeTCCodingErrors Counter32,

efmCuPmeTCCrcErrors Counter32

}

efmCuPmeOperStatus OBJECT-TYPE

SYNTAX INTEGER {

up(1),

downNotReady(2),

downReady(3),

init(4)

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current PME link Operational Status. Possible values are:

up(1) - The link is Up and ready to pass

64/65-octet encoded frames or fragments.

downNotReady(2) - The link is Down and the PME does not

detect Handshake tones from its peer.

This value may indicate a possible

problem with the peer PME.

downReady(3) - The link is Down and the PME detects

Handshake tones from its peer.

init(4) - The link is Initializing, as a result of

ifAdminStatus being set to 'up' for a

particular PME or a PCS to which the PME

is connected.

This object is intended to supplement the Down(2) state of

ifOperStatus.

This object partially maps to IEEE Std 802.3, Clause 30 attribute

aPMEStatus.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PME is present, then this

object partially maps to PMA/PMD link status bits in 10P/2B

PMA/PMD status register."

REFERENCE

"IEEE Std 802.3, 30.11.2.1.3, 45.2.1.15.4"

::= { efmCuPmeStatusEntry 1 }

efmCuPmeFltStatus OBJECT-TYPE

SYNTAX BITS {

lossOfFraming(0),

snrMgnDefect(1),

lineAtnDefect(2),

deviceFault(3),

configInitFailure(4),

protocolInitFailure(5)

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current/Last PME link Fault Status. This is a bitmap of

possible conditions. The various bit positions are:

lossOfFraming - Loss of Framing for 10P or

Loss of Sync word for 2B PMD or

Loss of 64/65-octet framing.

snrMgnDefect - SNR margin dropped below the

threshold.

lineAtnDefect - Line Attenuation exceeds the

threshold.

deviceFault - Indicates a vendor-dependent

diagnostic or self-test fault

has been detected.

configInitFailure - Configuration initialization failure,

due to inability of the PME link to

support the configuration profile,

requested during initialization.

protocolInitFailure - Protocol initialization failure, due

to an incompatible protocol used by

the peer PME during init (that could

happen if a peer PMD is a regular

G.SDHSL/VDSL modem instead of a

2BASE-TL/10PASS-TS PME).

This object is intended to supplement ifOperStatus in IF-MIB.

This object holds information about the last fault.

efmCuPmeFltStatus is cleared by the device restart.

In addition, lossOfFraming, configInitFailure, and

protocolInitFailure are cleared by PME init;

deviceFault is cleared by successful diagnostics/test;

snrMgnDefect and lineAtnDefect are cleared by SNR margin

and Line attenuation, respectively, returning to norm and by

PME init.

This object partially maps to IEEE Std 802.3, Clause 30 attribute

aPMEStatus.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PME is present, then this

object consolidates information from various PMA/PMD

registers, namely: Fault bit in PMA/PMD status 1 register,

10P/2B PMA/PMD link loss register,

10P outgoing indicator bits status register,

10P incoming indicator bits status register,

2B state defects register."

REFERENCE

"IEEE Std 802.3, 30.11.2.1.3, 45.2.1.2.1, 45.2.1.41,

45.2.1.42, 45.2.1.57"

::= { efmCuPmeStatusEntry 2 }

efmCuPmeOperSubType OBJECT-TYPE

SYNTAX INTEGER {

ieee2BaseTLO(1),

ieee2BaseTLR(2),

ieee10PassTSO(3),

ieee10PassTSR(4)

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current operational subtype of the PME.

Possible values are:

ieee2BaseTLO - PME operates as 2BaseTL-O

ieee2BaseTLR - PME operates as 2BaseTL-R

ieee10PassTSO - PME operates as 10PassTS-O

ieee10PassTSR - PME operates as 10PassTS-R

The desired operational subtype of the PME can be configured

via the efmCuPmeAdminSubType variable.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PMA/PMD is present, then

this object combines values of the Port subtype select

bits, the PMA/PMD type selection bits in the 10P/2B

PMA/PMD control register, and the PMA/PMD link status bits in

the 10P/2B PMA/PMD status register."

REFERENCE

"IEEE Std 802.3, 61.1, 45.2.1.14.4, 45.2.1.14.7, 45.2.1.15.4"

::= { efmCuPmeStatusEntry 3 }

efmCuPmeOperProfile OBJECT-TYPE

SYNTAX EfmProfileIndexOrZero

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"PME current operating profile. This object is a pointer to

an entry in either the efmCuPme2BProfileTable or the

efmCuPme10PProfileTable, depending on the current operating

SubType of the PME as indicated by efmCuPmeOperSubType.

Note that a profile entry to which efmCuPmeOperProfile is

pointing can be created automatically to reflect achieved

parameters in adaptive (not fixed) initialization,

i.e., values of efmCuPmeOperProfile and efmCuAdminProfile or

efmCuPmeAdminProfile may differ.

The value of zero indicates that the PME is Down or

Initializing.

This object partially maps to the aOperatingProfile attribute

in Clause 30."

REFERENCE

"IEEE Std 802.3, 30.11.2.1.7"

::= { efmCuPmeStatusEntry 4 }

efmCuPmeSnrMgn OBJECT-TYPE

SYNTAX Integer32(-127..128|65535)

UNITS "dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The current signal-to-noise ratio (SNR) margin with respect

to the received signal as perceived by the local PME.

The value of 65535 is returned when the PME is Down or

Initializing.

This object maps to the aPMESNRMgn attribute in Clause 30.

If IEEE Std 802.3, Clause 45 MDIO Interface is present, then this

object maps to the 10P/2B RX SNR margin register."

REFERENCE

"IEEE Std 802.3, 30.11.2.1.4, 45.2.1.19"

::= { efmCuPmeStatusEntry 5 }

efmCuPmePeerSnrMgn OBJECT-TYPE

SYNTAX Integer32(-127..128|65535)

UNITS "dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The current SNR margin in dB with respect to the received

signal, as perceived by the remote (link partner) PME.

The value of 65535 is returned when the PME is Down or

Initializing.

This object is irrelevant for the -R PME subtypes. The value

of 65535 shall be returned in this case.

If IEEE Std 802.3, Clause 45 MDIO Interface is present, then this

object maps to the 10P/2B link partner RX SNR margin

register."

REFERENCE

"IEEE Std 802.3, 45.2.1.20"

::= { efmCuPmeStatusEntry 6}

efmCuPmeLineAtn OBJECT-TYPE

SYNTAX Integer32(-127..128|65535)

UNITS "dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The current Line Attenuation in dB as perceived by the local

PME.

The value of 65535 is returned when the PME is Down or

Initializing.

If IEEE Std 802.3, Clause 45 MDIO Interface is present, then this

object maps to the Line Attenuation register."

REFERENCE

"IEEE Std 802.3, 45.2.1.21"

::= { efmCuPmeStatusEntry 7 }

efmCuPmePeerLineAtn OBJECT-TYPE

SYNTAX Integer32(-127..128|65535)

UNITS "dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The current Line Attenuation in dB as perceived by the remote

(link partner) PME.

The value of 65535 is returned when the PME is Down or

Initializing.

This object is irrelevant for the -R PME subtypes. The value

of 65535 shall be returned in this case.

If IEEE Std 802.3, Clause 45 MDIO Interface is present, then this

object maps to the 20P/2B link partner Line Attenuation

register."

REFERENCE

"IEEE Std 802.3, 45.2.1.22"

::= { efmCuPmeStatusEntry 8 }

efmCuPmeEquivalentLength OBJECT-TYPE

SYNTAX Unsigned32(0..8192|65535)

UNITS "m"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"An estimate of the equivalent loop's physical length in

meters, as perceived by the PME after the link is established.

An equivalent loop is a hypothetical 26AWG (0.4mm) loop with a

perfect square root attenuation characteristic, without any

bridged taps.

The value of 65535 is returned if the link is Down or

Initializing or the PME is unable to estimate the equivalent

length.

For a 10BASE-TL PME, If IEEE Std 802.3, Clause 45 MDIO Interface to the PME

is present, then this object maps to the 10P Electrical Length

register."

REFERENCE

"IEEE Std 802.3, 45.2.1.29"

::= { efmCuPmeStatusEntry 9 }

efmCuPmeTCCodingErrors OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of 64/65-octet encapsulation errors. This counter

is incremented for each 64/65-octet encapsulation error

detected by the 64/65-octet receive function.

This object maps to aTCCodingViolations attribute in

Clause 30.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PME TC is present, then

this object maps to the TC coding violations register

(see IEEE Std 802.3 45.2.6.12).

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 61.3.3.1, 30.11.2.1.5, 45.2.6.12"

::= { efmCuPmeStatusEntry 10 }

efmCuPmeTCCrcErrors OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of TC-CRC errors. This counter is incremented for

each TC-CRC error detected by the 64/65-octet receive function

(see IEEE Std 802.3 61.3.3.3 and IEEE Std 802.3 Figure 61-19).

This object maps to aTCCRCErrors attribute in

Clause 30.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PME TC is present, then

this object maps to the TC CRC error register

(see IEEE Std 802.3 45.2.6.11).

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 61.3.3.3, 30.11.2.1.10, 45.2.6.11"

::= { efmCuPmeStatusEntry 11 }

-- 2BASE-TL specific PME group

efmCuPme2B OBJECT IDENTIFIER ::= { efmCuPme 5 }

efmCuPme2BProfileTable OBJECT-TYPE

SYNTAX SEQUENCE OF EfmCuPme2BProfileEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table supports definitions of administrative and

operating profiles for 2BASE-TL PMEs.

The first 14 entries in this table shall be defined as

follows (see IEEE Std 802.3 Annex 63A):

-------+-------+-------+-----+------+-------------+-----------

Profile MinRate MaxRate Power Region Constellation Comment

index (kb/s) (kb/s) (dBm)

-------+-------+-------+-----+------+-------------+-----------

1 5696 5696 13.5 1 32-TCPAM default

2 3072 3072 13.5 1 32-TCPAM

3 2048 2048 13.5 1 16-TCPAM

4 1024 1024 13.5 1 16-TCPAM

5 704 704 13.5 1 16-TCPAM

6 512 512 13.5 1 16-TCPAM

7 5696 5696 14.5 2 32-TCPAM

8 3072 3072 14.5 2 32-TCPAM

9 2048 2048 14.5 2 16-TCPAM

10 1024 1024 13.5 2 16-TCPAM

11 704 704 13.5 2 16-TCPAM

12 512 512 13.5 2 16-TCPAM

13 192 5696 0 1 0 best effort

14 192 5696 0 2 0 best effort

-------+-------+-------+-----+------+-------------+-----------

These default entries shall be created during agent

initialization and shall not be deleted.

Entries following the first 14 can be dynamically created and

deleted to provide custom administrative (configuration)

profiles and automatic operating profiles.

This table shall be maintained in a persistent manner."

REFERENCE

"IEEE Std 802.3, Annex 63A, 30.11.2.1.6"

::= { efmCuPme2B 2 }

efmCuPme2BProfileEntry OBJECT-TYPE

SYNTAX EfmCuPme2BProfileEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Each entry corresponds to a single 2BASE-TL PME profile.

Each profile contains a set of parameters, used either for

configuration or representation of a 2BASE-TL PME.

In case a particular profile is referenced via the

efmCuPmeAdminProfile object (or efmCuAdminProfile if

efmCuPmeAdminProfile is zero), it represents the desired

parameters for the 2BaseTL-O PME initialization.

If a profile is referenced via an efmCuPmeOperProfile object,

it represents the current operating parameters of an

operational PME.

Profiles may be created/deleted using the row creation/

deletion mechanism via efmCuPme2BProfileRowStatus. If an

active entry is referenced, the entry shall remain 'active'

until all references are removed.

Default entries shall not be removed."

INDEX { efmCuPme2BProfileIndex }

::= { efmCuPme2BProfileTable 1 }

EfmCuPme2BProfileEntry ::=

SEQUENCE {

efmCuPme2BProfileIndex EfmProfileIndex,

efmCuPme2BProfileDescr SnmpAdminString,

efmCuPme2BRegion INTEGER,

efmCuPme2BsMode EfmProfileIndexOrZero,

efmCuPme2BMinDataRate Unsigned32,

efmCuPme2BMaxDataRate Unsigned32,

efmCuPme2BPower Unsigned32,

efmCuPme2BConstellation INTEGER,

efmCuPme2BProfileRowStatus RowStatus

}

efmCuPme2BProfileIndex OBJECT-TYPE

SYNTAX EfmProfileIndex

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"2BASE-TL PME profile index.

This object is the unique index associated with this profile.

Entries in this table are referenced via efmCuAdminProfile or

efmCuPmeAdminProfile objects."

::= { efmCuPme2BProfileEntry 1 }

efmCuPme2BProfileDescr OBJECT-TYPE

SYNTAX SnmpAdminString

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"A textual string containing information about a 2BASE-TL PME

profile. The string may include information about the data

rate and spectral limitations of this particular profile."

::= { efmCuPme2BProfileEntry 2 }

efmCuPme2BRegion OBJECT-TYPE

SYNTAX INTEGER {

region1(1),

region2(2)

}

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Regional settings for a 2BASE-TL PME, as specified in the

relevant Regional Annex of ITU-T Recommendation G.991.2.

Regional settings specify the Power Spectral Density (PSD)

mask and the Power Back-Off (PBO) values, and place

limitations on the max allowed data rate, power, and

constellation.

Possible values for this object are:

region1 - Annexes A and F (e.g., North America)

region2 - Annexes B and G (e.g., Europe)

Annex A/B specify regional settings for data rates from

192 kb/s to 2304 kb/s using 16-TCPAM encoding.

Annex F/G specify regional settings for rates from

2320 kb/s to 3840 kb/s using 16-TCPAM encoding and from

768 kb/s to 5696 kb/s using 32-TCPAM encoding.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PME is present, then this

object partially maps to the Region bits in the 2B general

parameter register."

REFERENCE

"IEEE Std 802.3, 45.2.1.45; ITU-T Recommendation G.991.2,

Annexes A, B, F and G"

::= { efmCuPme2BProfileEntry 3 }

efmCuPme2BsMode OBJECT-TYPE

SYNTAX EfmProfileIndexOrZero

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Desired custom Spectral Mode for a 2BASE-TL PME. This object

is a pointer to an entry in efmCuPme2BsModeTable and a block

of entries in efmCuPme2BRateReachTable, which together define

(country-specific) reach-dependent rate limitations in

addition to those defined by efmCuPme2BRegion.

The value of this object is the index of the referenced

spectral mode.

The value of zero (default) indicates that no specific

spectral mode is applicable.

Attempts to set this object to a value that is not the value

of the index for an active entry in the corresponding spectral

mode table shall be rejected."

REFERENCE

"efmCuPme2BsModeTable, efmCuPme2BRateReachTable"

DEFVAL { 0 }

::= { efmCuPme2BProfileEntry 4 }

efmCuPme2BMinDataRate OBJECT-TYPE

SYNTAX Unsigned32(192..5696)

UNITS "Kbps"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Minimum Data Rate for the 2BASE-TL PME.

This object can take values of (n x 64)kb/s,

where n=3..60 for 16-TCPAM and n=12..89 for 32-TCPAM encoding.

The data rate of the 2BASE-TL PME is considered 'fixed' when

the value of this object equals that of efmCuPme2BMaxDataRate.

If efmCuPme2BMinDataRate is less than efmCuPme2BMaxDataRate in

the administrative profile, the data rate is considered

'adaptive', and shall be set to the maximum attainable rate

not exceeding efmCuPme2BMaxDataRate, under the spectral

limitations placed by the efmCuPme2BRegion and

efmCuPme2BsMode.

Note that the current operational data rate of the PME is

represented by the ifSpeed object of IF-MIB.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PME is present, then this

object maps to the Min Data Rate1 bits in the 2B PMD

parameters register.

This object shall be maintained in a persistent manner."

REFERENCE

"IEEE Std 802.3, 45.2.1.46"

::= { efmCuPme2BProfileEntry 5 }

efmCuPme2BMaxDataRate OBJECT-TYPE

SYNTAX Unsigned32(192..5696)

UNITS "Kbps"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Maximum Data Rate for the 2BASE-TL PME.

This object can take values of (n x 64)kb/s,

where n=3..60 for 16-TCPAM and n=12..89 for 32-TCPAM encoding.

The data rate of the 2BASE-TL PME is considered 'fixed' when

the value of this object equals that of efmCuPme2BMinDataRate.

If efmCuPme2BMinDataRate is less than efmCuPme2BMaxDataRate in

the administrative profile, the data rate is considered

'adaptive', and shall be set to the maximum attainable rate

not exceeding efmCuPme2BMaxDataRate, under the spectral

limitations placed by the efmCuPme2BRegion and

efmCuPme2BsMode.

Note that the current operational data rate of the PME is

represented by the ifSpeed object of IF-MIB.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PME is present, then this

object maps to the Max Data Rate1 bits in the 2B PMD

parameters register.

This object shall be maintained in a persistent manner."

REFERENCE

"IEEE Std 802.3, 45.2.1.46"

::= { efmCuPme2BProfileEntry 6 }

efmCuPme2BPower OBJECT-TYPE

SYNTAX Unsigned32(0|10..42)

UNITS "0.5 dBm"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Signal Transmit Power. Multiple of 0.5 dBm.

The value of 0 in the administrative profile means that the

signal transmit power is not fixed and shall be set to

maximize the attainable rate, under the spectral limitations

placed by the efmCuPme2BRegion and efmCuPme2BsMode.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PME is present, then this

object maps to the Power1 bits in the 2B PMD parameters

register."

REFERENCE

"IEEE Std 802.3, 45.2.1.46"

::= { efmCuPme2BProfileEntry 7 }

efmCuPme2BConstellation OBJECT-TYPE

SYNTAX INTEGER {

adaptive(0),

tcpam16(1),

tcpam32(2)

}

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"TCPAM Constellation of the 2BASE-TL PME.

The possible values are:

adaptive(0) - either 16- or 32-TCPAM

tcpam16(1) - 16-TCPAM

tcpam32(2) - 32-TCPAM

The value of adaptive(0) in the administrative profile means

that the constellation is not fixed and shall be set to

maximize the attainable rate, under the spectral limitations

placed by the efmCuPme2BRegion and efmCuPme2BsMode.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PME is present, then this

object maps to the Constellation1 bits in the 2B general

parameter register."

REFERENCE

"IEEE Std 802.3, 45.2.1.46"

::= { efmCuPme2BProfileEntry 8 }

efmCuPme2BProfileRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object controls the creation, modification, or deletion

of the associated entry in the efmCuPme2BProfileTable per the

semantics of RowStatus.

If an 'active' entry is referenced via efmCuAdminProfile or

efmCuPmeAdminProfile instance(s), the entry shall remain

'active'.

An 'active' entry shall not be modified. In order to modify

an existing entry, it shall be taken out of service (by setting

this object to 'notInService'), modified, and set 'active'

again."

::= { efmCuPme2BProfileEntry 9 }

efmCuPme2BsModeTable OBJECT-TYPE

SYNTAX SEQUENCE OF EfmCuPme2BsModeEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table, together with efmCu2BReachRateTable, supports

definition of administrative custom spectral modes for

2BASE-TL PMEs, describing spectral limitations in addition to

those specified by efmCuPme2BRegion.

In some countries, spectral regulations (e.g., UK ANFP) limit

the length of the loops for certain data rates. This table

allows these country-specific limitations to be specified.

Entries in this table referenced by the efmCuPme2BsMode

shall not be deleted until all the active references are

removed.

This table shall be maintained in a persistent manner."

REFERENCE

"efmCu2BReachRateTable"

::= { efmCuPme2B 3 }

efmCuPme2BsModeEntry OBJECT-TYPE

SYNTAX EfmCuPme2BsModeEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Each entry specifies a spectral mode description and its

index, which is used to reference corresponding entries in the

efmCu2BReachRateTable.

Entries may be created/deleted using the row creation/

deletion mechanism via efmCuPme2BsModeRowStatus."

INDEX { efmCuPme2BsModeIndex }

::= { efmCuPme2BsModeTable 1 }

EfmCuPme2BsModeEntry ::=

SEQUENCE {

efmCuPme2BsModeIndex EfmProfileIndex,

efmCuPme2BsModeDescr SnmpAdminString,

efmCuPme2BsModeRowStatus RowStatus

}

efmCuPme2BsModeIndex OBJECT-TYPE

SYNTAX EfmProfileIndex

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"2BASE-TL PME Spectral Mode index.

This object is the unique index associated with this spectral

mode.

Entries in this table are referenced via the efmCuPme2BsMode

object."

::= { efmCuPme2BsModeEntry 1 }

efmCuPme2BsModeDescr OBJECT-TYPE

SYNTAX SnmpAdminString

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"A textual string containing information about a 2BASE-TL PME

spectral mode. The string may include information about

corresponding (country-specific) spectral regulations

and rate/reach limitations of this particular spectral mode."

::= { efmCuPme2BsModeEntry 2 }

efmCuPme2BsModeRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object controls creation, modification, or deletion of

the associated entry in efmCuPme2BsModeTable per the semantics

of RowStatus.

If an 'active' entry is referenced via efmCuPme2BsMode

instance(s), the entry shall remain 'active'.

An 'active' entry shall not be modified. In order to modify

an existing entry, it shall be taken out of service (by setting

this object to 'notInService'), modified, and set 'active'

again."

::= { efmCuPme2BsModeEntry 3 }

efmCuPme2BReachRateTable OBJECT-TYPE

SYNTAX SEQUENCE OF EfmCuPme2BReachRateEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table supports the definition of administrative custom

spectral modes for 2BASE-TL PMEs, providing spectral

limitations in addition to those specified by

efmCuPme2BRegion.

The spectral regulations in some countries (e.g., UK ANFP)

limit the length of the loops for certain data rates.

This table allows these country-specific limitations to be

specified.

Below is an example of this table for NICC Document ND1602:2005/08:

----------+-------+-------

Equivalent MaxRate MaxRate

Length PAM16 PAM32

(m) (kb/s) (kb/s)

----------+-------+-------

975 2304 5696

1125 2304 5504

1275 2304 5120

1350 2304 4864

1425 2304 4544

1500 2304 4288

1575 2304 3968

1650 2304 3776

1725 2304 3520

1800 2304 3264

1875 2304 3072

1950 2048 2688

2100 1792 2368

2250 1536 0

2400 1408 0

2550 1280 0

2775 1152 0

2925 1152 0

3150 1088 0

3375 1024 0

----------+-------+-------

Entries in this table referenced by an efmCuPme2BsMode

instance shall not be deleted.

This table shall be maintained in a persistent manner."

REFERENCE

"NICC Document ND1602:2005/08"

::= { efmCuPme2B 4 }

efmCuPme2BReachRateEntry OBJECT-TYPE

SYNTAX EfmCuPme2BReachRateEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Each entry specifies maximum 2BASE-TL PME data rates

allowed for a certain equivalent loop length, when using

16-TCPAM or 32-TCPAM encoding.

When a 2BASE-TL PME is initialized, its data rate shall not

exceed the following limitations:

- the value of efmCuPme2BMaxDataRate

- maximum data rate allowed by efmCuPme2BRegion and

efmCuPme2BPower

- maximum data rate for a given encoding specified in the

efmCuPme2BsModeEntry, corresponding to the equivalent loop

length, estimated by the PME

efmCuPme2BEquivalentLength values should be assigned

in increasing order, starting from the minimum value.

Entries may be created/deleted using the row creation/

deletion mechanism via efmCuPme2ReachRateRowStatus."

INDEX { efmCuPme2BsModeIndex, efmCuPme2BReachRateIndex }

::= { efmCuPme2BReachRateTable 1 }

EfmCuPme2BReachRateEntry ::=

SEQUENCE {

efmCuPme2BReachRateIndex EfmProfileIndex,

efmCuPme2BEquivalentLength Unsigned32,

efmCuPme2BMaxDataRatePam16 Unsigned32,

efmCuPme2BMaxDataRatePam32 Unsigned32,

efmCuPme2BReachRateRowStatus RowStatus

}

efmCuPme2BReachRateIndex OBJECT-TYPE

SYNTAX EfmProfileIndex

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"2BASE-TL custom spectral mode Reach-Rate table index.

This object is the unique index associated with each entry."

::= { efmCuPme2BReachRateEntry 1 }

efmCuPme2BEquivalentLength OBJECT-TYPE

SYNTAX Unsigned32(0..8192)

UNITS "m"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Maximum allowed equivalent loop's physical length in meters

for the specified data rates.

An equivalent loop is a hypothetical 26AWG (0.4mm) loop with a

perfect square root attenuation characteristic, without any

bridged taps."

::= { efmCuPme2BReachRateEntry 2 }

efmCuPme2BMaxDataRatePam16 OBJECT-TYPE

SYNTAX Unsigned32(0|192..5696)

UNITS "Kbps"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Maximum data rate for a 2BASE-TL PME at the specified

equivalent loop's length using TC-PAM16 encoding.

The value of zero means that TC-PAM16 encoding should not be

used at this distance."

::= { efmCuPme2BReachRateEntry 3 }

efmCuPme2BMaxDataRatePam32 OBJECT-TYPE

SYNTAX Unsigned32(0|192..5696)

UNITS "Kbps"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Maximum data rate for a 2BASE-TL PME at the specified

equivalent loop's length using TC-PAM32 encoding.

The value of zero means that TC-PAM32 encoding should not be

used at this distance."

::= { efmCuPme2BReachRateEntry 4 }

efmCuPme2BReachRateRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object controls the creation, modification, or deletion

of the associated entry in the efmCuPme2BReachRateTable per

the semantics of RowStatus.

If an 'active' entry is referenced via efmCuPme2BsMode

instance(s), the entry shall remain 'active'.

An 'active' entry shall not be modified. In order to modify

an existing entry, it shall be taken out of service (by setting

this object to 'notInService'), modified, and set 'active'

again."

::= { efmCuPme2BReachRateEntry 5 }

-- 10PASS-TS specific PME group

efmCuPme10P OBJECT IDENTIFIER ::= { efmCuPme 6 }

efmCuPme10PProfileTable OBJECT-TYPE

SYNTAX SEQUENCE OF EfmCuPme10PProfileEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table supports definitions of configuration profiles for

10PASS-TS PMEs.

The first 22 entries in this table shall be defined as

follows (see IEEE Std 802.3 Annex 62B.3, Table 62B-1):

-------+--------+----+---------+-----+-----+---------------

Profile Bandplan UPBO BandNotch DRate URate Comment

Index PSDMask# p# p# p# p#

-------+--------+----+---------+-----+-----+---------------

1 1 3 2,6,10,11 20 20 default profile

2 13 5 0 20 20

3 1 1 0 20 20

4 16 0 0 100 100

5 16 0 0 70 50

6 6 0 0 50 10

7 17 0 0 30 30

8 8 0 0 30 5

9 4 0 0 25 25

10 4 0 0 15 15

11 23 0 0 10 10

12 23 0 0 5 5

13 16 0 2,5,9,11 100 100

14 16 0 2,5,9,11 70 50

15 6 0 2,6,10,11 50 10

16 17 0 2,5,9,11 30 30

17 8 0 2,6,10,11 30 5

18 4 0 2,6,10,11 25 25

19 4 0 2,6,10,11 15 15

20 23 0 2,5,9,11 10 10

21 23 0 2,5,9,11 5 5

22 30 0 0 200 50

-------+--------+----+---------+-----+-----+---------------

These default entries shall be created during agent

initialization and shall not be deleted.

Entries following the first 22 can be dynamically created and

deleted to provide custom administrative (configuration)

profiles and automatic operating profiles.

This table shall be maintained in a persistent manner."

REFERENCE

"IEEE Std 802.3, Annex 62B.3, 30.11.2.1.6"

::= { efmCuPme10P 1 }

efmCuPme10PProfileEntry OBJECT-TYPE

SYNTAX EfmCuPme10PProfileEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Each entry corresponds to a single 10PASS-TS PME profile.

Each profile contains a set of parameters, used either for

configuration or representation of a 10PASS-TS PME.

In case a particular profile is referenced via the

efmCuPmeAdminProfile object (or efmCuAdminProfile if

efmCuPmeAdminProfile is zero), it represents the desired

parameters for the 10PassTS-O PME initialization.

If a profile is referenced via an efmCuPmeOperProfile object,

it represents the current operating parameters of the PME.

Profiles may be created/deleted using the row creation/

deletion mechanism via efmCuPme10PProfileRowStatus. If an

'active' entry is referenced, the entry shall remain 'active'

until all references are removed.

Default entries shall not be removed."

INDEX { efmCuPme10PProfileIndex }

::= { efmCuPme10PProfileTable 1 }

EfmCuPme10PProfileEntry ::=

SEQUENCE {

efmCuPme10PProfileIndex EfmProfileIndex,

efmCuPme10PProfileDescr SnmpAdminString,

efmCuPme10PBandplanPSDMskProfile INTEGER,

efmCuPme10PUPBOReferenceProfile INTEGER,

efmCuPme10PBandNotchProfiles BITS,

efmCuPme10PPayloadDRateProfile INTEGER,

efmCuPme10PPayloadURateProfile INTEGER,

efmCuPme10PProfileRowStatus RowStatus

}

efmCuPme10PProfileIndex OBJECT-TYPE

SYNTAX EfmProfileIndex

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"10PASS-TS PME profile index.

This object is the unique index associated with this profile.

Entries in this table are referenced via efmCuAdminProfile or

efmCuPmeAdminProfile."

::= { efmCuPme10PProfileEntry 1 }

efmCuPme10PProfileDescr OBJECT-TYPE

SYNTAX SnmpAdminString

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"A textual string containing information about a 10PASS-TS PME

profile. The string may include information about data rate

and spectral limitations of this particular profile."

::= { efmCuPme10PProfileEntry 2 }

efmCuPme10PBandplanPSDMskProfile OBJECT-TYPE

SYNTAX INTEGER {

profile1(1),

profile2(2),

profile3(3),

profile4(4),

profile5(5),

profile6(6),

profile7(7),

profile8(8),

profile9(9),

profile10(10),

profile11(11),

profile12(12),

profile13(13),

profile14(14),

profile15(15),

profile16(16),

profile17(17),

profile18(18),

profile19(19),

profile20(20),

profile21(21),

profile22(22),

profile23(23),

profile24(24),

profile25(25),

profile26(26),

profile27(27),

profile28(28),

profile29(29),

profile30(30)

}

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The 10PASS-TS PME Bandplan and PSD Mask Profile, as specified

in IEEE Std 802.3 Annex 62A, table 62A-1. Possible values are:

--------------+------------------------+------------+--------

Profile Name PSD Mask Bands ITU-T G.993.1

0/1/2/3/4/5 Bandplan

--------------+------------------------+------------+--------

profile1(1) ANSI T1.424 FTTCab.M1 x/D/U/D/U A

profile2(2) ANSI T1.424 FTTEx.M1 x/D/U/D/U A

profile3(3) ANSI T1.424 FTTCab.M2 x/D/U/D/U A

profile4(4) ANSI T1.424 FTTEx.M2 x/D/U/D/U A

profile5(5) ANSI T1.424 FTTCab.M1 D/D/U/D/U A

profile6(6) ANSI T1.424 FTTEx.M1 D/D/U/D/U A

profile7(7) ANSI T1.424 FTTCab.M2 D/D/U/D/U A

profile8(8) ANSI T1.424 FTTEx.M2 D/D/U/D/U A

profile9(9) ANSI T1.424 FTTCab.M1 U/D/U/D/x A

profile10(10) ANSI T1.424 FTTEx.M1 U/D/U/D/x A

profile11(11) ANSI T1.424 FTTCab.M2 U/D/U/D/x A

profile12(12) ANSI T1.424 FTTEx.M2 U/D/U/D/x A

profile13(13) ETSI TS 101 270-1 Pcab.M1.A x/D/U/D/U B

profile14(14) ETSI TS 101 270-1 Pcab.M1.B x/D/U/D/U B

profile15(15) ETSI TS 101 270-1 Pex.P1.M1 x/D/U/D/U B

profile16(16) ETSI TS 101 270-1 Pex.P2.M1 x/D/U/D/U B

profile17(17) ETSI TS 101 270-1 Pcab.M2 x/D/U/D/U B

profile18(18) ETSI TS 101 270-1 Pex.P1.M2 x/D/U/D/U B

profile19(19) ETSI TS 101 270-1 Pex.P2.M2 x/D/U/D/U B

profile20(20) ETSI TS 101 270-1 Pcab.M1.A U/D/U/D/x B

profile21(21) ETSI TS 101 270-1 Pcab.M1.B U/D/U/D/x B

profile22(22) ETSI TS 101 270-1 Pex.P1.M1 U/D/U/D/x B

profile23(23) ETSI TS 101 270-1 Pex.P2.M1 U/D/U/D/x B

profile24(24) ETSI TS 101 270-1 Pcab.M2 U/D/U/D/x B

profile25(25) ETSI TS 101 270-1 Pex.P1.M2 U/D/U/D/x B

profile26(26) ETSI TS 101 270-1 Pex.P2.M2 U/D/U/D/x B

profile27(27) ITU-T G.993.1 F.1.2.1 x/D/U/D/U Annex F

profile28(28) ITU-T G.993.1 F.1.2.2 x/D/U/D/U Annex F

profile29(29) ITU-T G.993.1 F.1.2.3 x/D/U/D/U Annex F

profile30(30) ANSI T1.424 FTTCab.M1 (ext.) x/D/U/D/U/D Annex A

--------------+------------------------+------------+--------

"

REFERENCE

"IEEE Std 802.3, Annex 62A"

::= { efmCuPme10PProfileEntry 3 }

efmCuPme10PUPBOReferenceProfile OBJECT-TYPE

SYNTAX INTEGER {

profile0(0),

profile1(1),

profile2(2),

profile3(3),

profile4(4),

profile5(5),

profile6(6),

profile7(7),

profile8(8),

profile9(9)

}

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The 10PASS-TS PME Upstream Power Back-Off (UPBO) Reference

PSD Profile, as specified in 802.3 Annex 62A, table 62A-3.

Possible values are:

------------+-----------------------------

Profile Name Reference PSD

------------+-----------------------------

profile0(0) no profile

profile1(1) ANSI T1.424 Noise A M1

profile2(2) ANSI T1.424 Noise A M2

profile3(3) ANSI T1.424 Noise F M1

profile4(4) ANSI T1.424 Noise F M2

profile5(5) ETSI TS 101 270-1 Noise A&B

profile6(6) ETSI TS 101 270-1 Noise C

profile7(7) ETSI TS 101 270-1 Noise D

profile8(8) ETSI TS 101 270-1 Noise E

profile9(9) ETSI TS 101 270-1 Noise F

------------+-----------------------------

"

REFERENCE

"IEEE Std 802.3, Annex 62A.3.5"

::= { efmCuPme10PProfileEntry 4 }

efmCuPme10PBandNotchProfiles OBJECT-TYPE

SYNTAX BITS {

profile0(0),

profile1(1),

profile2(2),

profile3(3),

profile4(4),

profile5(5),

profile6(6),

profile7(7),

profile8(8),

profile9(9),

profile10(10),

profile11(11)

}

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The 10PASS-TS PME Egress Control Band Notch Profile bitmap,

as specified in IEEE Std 802.3 Annex 62A, table 62A-4. Possible

values are:

--------------+--------+------+------------+------+------

Profile Name G.991.3 T1.424 TS 101 270-1 StartF EndF

table table table (MHz) (MHz)

--------------+--------+------+------------+------+------

profile0(0) no profile

profile1(1) F-5 #01 - - 1.810 1.825

profile2(2) 6-2 15-1 17 1.810 2.000

profile3(3) F-5 #02 - - 1.907 1.912

profile4(4) F-5 #03 - - 3.500 3.575

profile5(5) 6-2 - 17 3.500 3.800

profile6(6) - 15-1 - 3.500 4.000

profile7(7) F-5 #04 - - 3.747 3.754

profile8(8) F-5 #05 - - 3.791 3.805

profile9(9) 6-2 - 17 7.000 7.100

profile10(10) F-5 #06 15-1 - 7.000 7.300

profile11(11) 6-2 15-1 1 10.100 10.150

--------------+--------+------+------------+------+------

Any combination of profiles can be specified by ORing

individual profiles, for example, a value of 0x2230 selects

profiles 2, 6, 10, and 11."

REFERENCE

"IEEE Std 802.3, Annex 62A.3.5"

::= { efmCuPme10PProfileEntry 5 }

efmCuPme10PPayloadDRateProfile OBJECT-TYPE

SYNTAX INTEGER {

profile5(5),

profile10(10),

profile15(15),

profile20(20),

profile25(25),

profile30(30),

profile50(50),

profile70(70),

profile100(100),

profile140(140),

profile200(200)

}

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The 10PASS-TS PME Downstream Payload Rate Profile, as

specified in IEEE Std 802.3 Annex 62A. Possible values are:

profile5(5) - 2.5 Mb/s

profile10(10) - 5 Mb/s

profile15(15) - 7.5 Mb/s

profile20(20) - 10 Mb/s

profile25(25) - 12.5 Mb/s

profile30(30) - 15 Mb/s

profile50(50) - 25 Mb/s

profile70(70) - 35 Mb/s

profile100(100) - 50 Mb/s

profile140(140) - 70 Mb/s

profile200(200) - 100 Mb/s

Each value represents a target for the PME's Downstream

Payload Bitrate as seen at the MII. If the payload rate of

the selected profile cannot be achieved based on the loop

environment, bandplan, and PSD mask, the PME initialization

shall fail."

REFERENCE

"IEEE Std 802.3, Annex 62A.3.6"

::= { efmCuPme10PProfileEntry 6 }

efmCuPme10PPayloadURateProfile OBJECT-TYPE

SYNTAX INTEGER {

profile5(5),

profile10(10),

profile15(15),

profile20(20),

profile25(25),

profile30(30),

profile50(50),

profile70(70),

profile100(100)

}

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The 10PASS-TS PME Upstream Payload Rate Profile, as specified

in 802.3 Annex 62A. Possible values are:

profile5(5) - 2.5 Mb/s

profile10(10) - 5 Mb/s

profile15(15) - 7.5 Mb/s

profile20(20) - 10 Mb/s

profile25(25) - 12.5 Mb/s

profile30(30) - 15 Mb/s

profile50(50) - 25 Mb/s

profile70(70) - 35 Mb/s

profile100(100) - 50 Mb/s

Each value represents a target for the PME's Upstream Payload

Bitrate as seen at the MII. If the payload rate of the

selected profile cannot be achieved based on the loop

environment, bandplan, and PSD mask, the PME initialization

shall fail."

REFERENCE

"IEEE Std 802.3, Annex 62A.3.6"

::= { efmCuPme10PProfileEntry 7 }

efmCuPme10PProfileRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object controls creation, modification, or deletion of

the associated entry in efmCuPme10PProfileTable per the

semantics of RowStatus.

If an active entry is referenced via efmCuAdminProfile or

efmCuPmeAdminProfile, the entry shall remain 'active' until

all references are removed.

An 'active' entry shall not be modified. In order to modify

an existing entry, it shall be taken out of service (by setting

this object to 'notInService'), modified, and set 'active'

again."

::= { efmCuPme10PProfileEntry 8 }

efmCuPme10PStatusTable OBJECT-TYPE

SYNTAX SEQUENCE OF EfmCuPme10PStatusEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table provides status information of EFMCu 10PASS-TS

PMEs (modems).

This table contains live data from the equipment. As such,

it is not persistent."

::= { efmCuPme10P 2 }

efmCuPme10PStatusEntry OBJECT-TYPE

SYNTAX EfmCuPme10PStatusEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the EFMCu 10PASS-TS PME Status table."

INDEX { ifIndex }

::= { efmCuPme10PStatusTable 1 }

EfmCuPme10PStatusEntry ::=

SEQUENCE {

efmCuPme10PFECCorrectedBlocks Counter32,

efmCuPme10PFECUncorrectedBlocks Counter32

}

efmCuPme10PFECCorrectedBlocks OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of received and corrected Forward Error Correction

(FEC) codewords in this 10PASS-TS PME.

This object maps to the aPMEFECCorrectedBlocks attribute in

Clause 30.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PMA/PMD is present,

then this object maps to the 10P FEC correctable errors

register.

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 45.2.1.25, 30.11.2.1.8"

::= { efmCuPme10PStatusEntry 1 }

efmCuPme10PFECUncorrectedBlocks OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of received uncorrectable FEC codewords in this

10PASS-TS PME.

This object maps to the aPMEFECUncorrectableBlocks attribute

in Clause 30.

If IEEE Std 802.3, Clause 45 MDIO Interface to the PMA/PMD is present,

then this object maps to the 10P FEC uncorrectable errors

register.

Discontinuities in the value of this counter can occur at

re-initialization of the management system, and at other times

as indicated by the value of ifCounterDiscontinuityTime,

defined in IF-MIB."

REFERENCE

"IEEE Std 802.3, 45.2.1.26, 30.11.2.1.9"

::= { efmCuPme10PStatusEntry 2 }

--

-- Conformance statements

--

efmCuGroups OBJECT IDENTIFIER ::= { efmCuConformance 1 }

efmCuCompliances OBJECT IDENTIFIER ::= { efmCuConformance 2 }

-- Object Groups

efmCuBasicGroup OBJECT-GROUP

OBJECTS {

efmCuPAFSupported,

efmCuAdminProfile,

efmCuTargetDataRate,

efmCuTargetSnrMgn,

efmCuAdaptiveSpectra,

efmCuPortSide,

efmCuFltStatus

}

STATUS current

DESCRIPTION

"A collection of objects representing management information

common for all types of EFMCu ports."

::= { efmCuGroups 1 }

efmCuPAFGroup OBJECT-GROUP

OBJECTS {

efmCuPeerPAFSupported,

efmCuPAFCapacity,

efmCuPeerPAFCapacity,

efmCuPAFAdminState,

efmCuPAFDiscoveryCode,

efmCuPAFRemoteDiscoveryCode,

efmCuNumPMEs

}

STATUS current

DESCRIPTION

"A collection of objects supporting optional PME

Aggregation Function (PAF) and PAF discovery in EFMCu ports."

::= { efmCuGroups 2 }

efmCuPAFErrorsGroup OBJECT-GROUP

OBJECTS {

efmCuPAFInErrors,

efmCuPAFInSmallFragments,

efmCuPAFInLargeFragments,

efmCuPAFInBadFragments,

efmCuPAFInLostFragments,

efmCuPAFInLostStarts,

efmCuPAFInLostEnds,

efmCuPAFInOverflows

}

STATUS current

DESCRIPTION

"A collection of objects supporting optional error counters

of PAF on EFMCu ports."

::= { efmCuGroups 3 }

efmCuPmeGroup OBJECT-GROUP

OBJECTS {

efmCuPmeAdminProfile,

efmCuPmeOperStatus,

efmCuPmeFltStatus,

efmCuPmeSubTypesSupported,

efmCuPmeAdminSubType,

efmCuPmeOperSubType,

efmCuPAFRemoteDiscoveryCode,

efmCuPmeOperProfile,

efmCuPmeSnrMgn,

efmCuPmePeerSnrMgn,

efmCuPmeLineAtn,

efmCuPmePeerLineAtn,

efmCuPmeEquivalentLength,

efmCuPmeTCCodingErrors,

efmCuPmeTCCrcErrors,

efmCuPmeThreshLineAtn,

efmCuPmeThreshSnrMgn

}

STATUS current

DESCRIPTION

"A collection of objects providing information about

a 2BASE-TL/10PASS-TS PME."

::= { efmCuGroups 4 }

efmCuAlarmConfGroup OBJECT-GROUP

OBJECTS {

efmCuThreshLowRate,

efmCuLowRateCrossingEnable,

efmCuPmeThreshLineAtn,

efmCuPmeLineAtnCrossingEnable,

efmCuPmeThreshSnrMgn,

efmCuPmeSnrMgnCrossingEnable,

efmCuPmeDeviceFaultEnable,

efmCuPmeConfigInitFailEnable,

efmCuPmeProtocolInitFailEnable

}

STATUS current

DESCRIPTION

"A collection of objects supporting configuration of alarm

thresholds and notifications in EFMCu ports."

::= { efmCuGroups 5 }

efmCuNotificationGroup NOTIFICATION-GROUP

NOTIFICATIONS {

efmCuLowRateCrossing,

efmCuPmeLineAtnCrossing,

efmCuPmeSnrMgnCrossing,

efmCuPmeDeviceFault,

efmCuPmeConfigInitFailure,

efmCuPmeProtocolInitFailure

}

STATUS current

DESCRIPTION

"This group supports notifications of significant conditions

associated with EFMCu ports."

::= { efmCuGroups 6 }

efmCuPme2BProfileGroup OBJECT-GROUP

OBJECTS {

efmCuPme2BProfileDescr,

efmCuPme2BRegion,

efmCuPme2BsMode,

efmCuPme2BMinDataRate,

efmCuPme2BMaxDataRate,

efmCuPme2BPower,

efmCuPme2BConstellation,

efmCuPme2BProfileRowStatus,

efmCuPme2BsModeDescr,

efmCuPme2BsModeRowStatus,

efmCuPme2BEquivalentLength,

efmCuPme2BMaxDataRatePam16,

efmCuPme2BMaxDataRatePam32,

efmCuPme2BReachRateRowStatus

}

STATUS current

DESCRIPTION

"A collection of objects that constitute a configuration

profile for configuration of 2BASE-TL ports."

::= { efmCuGroups 7}

efmCuPme10PProfileGroup OBJECT-GROUP

OBJECTS {

efmCuPme10PProfileDescr,

efmCuPme10PBandplanPSDMskProfile,

efmCuPme10PUPBOReferenceProfile,

efmCuPme10PBandNotchProfiles,

efmCuPme10PPayloadDRateProfile,

efmCuPme10PPayloadURateProfile,

efmCuPme10PProfileRowStatus

}

STATUS current

DESCRIPTION

"A collection of objects that constitute a configuration

profile for configuration of 10PASS-TS ports."

::= { efmCuGroups 8 }

efmCuPme10PStatusGroup OBJECT-GROUP

OBJECTS {

efmCuPme10PFECCorrectedBlocks,

efmCuPme10PFECUncorrectedBlocks

}

STATUS current

DESCRIPTION

"A collection of objects providing status information

specific to 10PASS-TS PMEs."

::= { efmCuGroups 9 }

-- Compliance statements

efmCuCompliance MODULE-COMPLIANCE

STATUS current

DESCRIPTION

"The compliance statement for 2BASE-TL/10PASS-TS interfaces.

Compliance with the following external compliance statements

is required:

MIB module Compliance Statement

---------- --------------------

IF-MIB ifCompliance3

IEEE8023-EtherLike-MIB dot3Compliance2

MAU-MIB mauModIfCompl3

Compliance with the following external compliance statements

is optional for implementations supporting PME Aggregation

Function (PAF) with flexible cross-connect between the PCS

and PME ports:

MIB module Compliance Statement

---------- --------------------

IF-INVERTED-STACK-MIB ifInvCompliance

IF-CAP-STACK-MIB ifCapStackCompliance"

MODULE -- this module

MANDATORY-GROUPS {

efmCuBasicGroup,

efmCuPmeGroup,

efmCuAlarmConfGroup,

efmCuNotificationGroup

}

GROUP efmCuPme2BProfileGroup

DESCRIPTION

"Support for this group is only required for implementations

supporting 2BASE-TL PHY."

GROUP efmCuPme10PProfileGroup

DESCRIPTION

"Support for this group is only required for implementations

supporting 10PASS-TS PHY."

GROUP efmCuPAFGroup

DESCRIPTION

"Support for this group is only required for

implementations supporting PME Aggregation Function (PAF)."

GROUP efmCuPAFErrorsGroup

DESCRIPTION

"Support for this group is optional for implementations

supporting PME Aggregation Function (PAF)."

GROUP efmCuPme10PStatusGroup

DESCRIPTION

"Support for this group is optional for implementations

supporting 10PASS-TS PHY."

OBJECT efmCuPmeSubTypesSupported

SYNTAX BITS {

ieee2BaseTLO(0),

ieee2BaseTLR(1),

ieee10PassTSO(2),

ieee10PassTSR(3)

}

DESCRIPTION

"Support for all subtypes is not required. However, at

least one value shall be supported."

OBJECT efmCuPmeAdminSubType

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required (needed only for PMEs

supporting more than a single subtype, e.g.,

ieee2BaseTLO and ieee2BaseTLR or ieee10PassTSO and

ieee10PassTSR)."

OBJECT efmCuTargetSnrMgn

MIN-ACCESS read-only

DESCRIPTION

"Write access is optional. For PHYs without write access,

the target SNR margin shall be fixed at 5dB for 2BASE-TL

and 6dB for 10PASS-TS."

OBJECT efmCuAdaptiveSpectra

MIN-ACCESS read-only

DESCRIPTION

"Write access is optional. For PHYs without write access,

the default value should be false."

::= { efmCuCompliances 1 }

END