IEEE8023-EtherLike-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-IDENTITY, OBJECT-TYPE,

Integer32, Counter32, Counter64, org, Unsigned32

FROM SNMPv2-SMI

MODULE-COMPLIANCE, OBJECT-GROUP

FROM SNMPv2-CONF

TruthValue

FROM SNMPv2-TC

ifIndex, InterfaceIndex

FROM IF-MIB;

ieee8023etherMIB MODULE-IDENTITY

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

ORGANIZATION

"IEEE 802.3 Working Group"

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DESCRIPTION "The MIB module to describe generic objects for

Ethernet-like network interfaces."

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

in RFC 3635."

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

lan-man-stds(802) ieee802dot3(3) ieee802dot3dot1mibs(1) 10 }

ieee8023etherMIBObjects OBJECT IDENTIFIER ::= { ieee8023etherMIB 1 }

-- the Ethernet-like Statistics group

dot3StatsTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot3StatsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "Statistics for a collection of Ethernet-like

interfaces attached to a particular system.

There will be one row in this table for each

Ethernet-like interface in the system."

::= { ieee8023etherMIBObjects 2 }

dot3StatsEntry OBJECT-TYPE

SYNTAX Dot3StatsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "Statistics for a particular interface to an

Ethernet-like medium."

INDEX { dot3StatsIndex }

::= { dot3StatsTable 1 }

Dot3StatsEntry ::=

SEQUENCE {

dot3StatsIndex InterfaceIndex,

dot3StatsAlignmentErrors Counter32,

dot3StatsFCSErrors Counter32,

dot3StatsSingleCollisionFrames Counter32,

dot3StatsMultipleCollisionFrames Counter32,

dot3StatsSQETestErrors Counter32,

dot3StatsDeferredTransmissions Counter32,

dot3StatsLateCollisions Counter32,

dot3StatsExcessiveCollisions Counter32,

dot3StatsInternalMacTransmitErrors Counter32,

dot3StatsCarrierSenseErrors Counter32,

dot3StatsFrameTooLongs Counter32,

dot3StatsInternalMacReceiveErrors Counter32,

dot3StatsSymbolErrors Counter32,

dot3StatsDuplexStatus INTEGER,

dot3StatsRateControlAbility TruthValue,

dot3StatsRateControlStatus INTEGER,

dot3StatsMaxFrameLength INTEGER

}

dot3StatsIndex OBJECT-TYPE

SYNTAX InterfaceIndex

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "An index value that uniquely identifies an

interface to an Ethernet-like medium. The

interface identified by a particular value of

this index is the same interface as identified

by the same value of ifIndex."

REFERENCE "IETF RFC 2863, ifIndex"

::= { dot3StatsEntry 1 }

dot3StatsAlignmentErrors OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames received on a particular

interface that are not an integral number of

octets in length and do not pass the FCS check.

The count represented by an instance of this

object is incremented when the alignmentError

status is returned by the MAC service to the

LLC (or other MAC user). Received frames for

which multiple error conditions pertain are,

according to the conventions of IEEE 802.3

Layer Management, counted exclusively according

to the error status presented to the LLC.

This counter does not increment for group

encoding schemes greater than 4 bits per group.

For interfaces operating at 10 Gb/s, this

counter can roll over in less than 5 minutes if

it is incrementing at its maximum rate. Since

that amount of time could be less than a

management station's poll cycle time, in order

to avoid a loss of information, a management

station is advised to poll the

dot3HCStatsAlignmentErrors object for 10 Gb/s

or faster interfaces.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.7"

::= { dot3StatsEntry 2 }

dot3StatsFCSErrors OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames received on a particular

interface that are an integral number of octets

in length but do not pass the FCS check. This

count does not include frames received with

frame-too-long or frame-too-short error.

The count represented by an instance of this

object is incremented when the frameCheckError

status is returned by the MAC service to the

LLC (or other MAC user). Received frames for

which multiple error conditions pertain are,

according to the conventions of IEEE 802.3

Layer Management, counted exclusively according

to the error status presented to the LLC.

Note: Coding errors detected by the Physical

Layer for speeds above 10 Mb/s will cause the

frame to fail the FCS check.

For interfaces operating at 10 Gb/s, this

counter can roll over in less than 5 minutes if

it is incrementing at its maximum rate. Since

that amount of time could be less than a

management station's poll cycle time, in order

to avoid a loss of information, a management

station is advised to poll the

dot3HCStatsFCSErrors object for 10 Gb/s or

faster interfaces.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.6"

::= { dot3StatsEntry 3 }

dot3StatsSingleCollisionFrames OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames that are involved in a single

collision, and are subsequently transmitted

successfully.

A frame that is counted by an instance of this

object is also counted by the corresponding

instance of either the ifOutUcastPkts,

ifOutMulticastPkts, or ifOutBroadcastPkts,

and is not counted by the corresponding

instance of the dot3StatsMultipleCollisionFrames

object.

This counter does not increment when the

interface is operating in full-duplex mode.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.3"

::= { dot3StatsEntry 4 }

dot3StatsMultipleCollisionFrames OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames that are involved in more

than one collision and are subsequently

transmitted successfully.

A frame that is counted by an instance of this

object is also counted by the corresponding

instance of either the ifOutUcastPkts,

ifOutMulticastPkts, or ifOutBroadcastPkts,

and is not counted by the corresponding

instance of the dot3StatsSingleCollisionFrames

object.

This counter does not increment when the

interface is operating in full-duplex mode.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.4"

::= { dot3StatsEntry 5 }

dot3StatsSQETestErrors OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of times that the SQE TEST ERROR

is received on a particular interface. The

SQE TEST ERROR is set in accordance with the

rules for verification of the SQE detection

mechanism in the PLS Carrier Sense Function as

described in IEEE Std 802.3, 7.2.4.6.

This counter does not increment on interfaces

operating at speeds greater than 10 Mb/s, or on

interfaces operating in full-duplex mode.

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."

REFERENCE "IEEE Std 802.3, 7.2.4.6, also 30.3.2.1.4,

aSQETestErrors."

::= { dot3StatsEntry 6 }

dot3StatsDeferredTransmissions OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames for which the first

transmission attempt on a particular interface

is delayed because the medium is busy.

The count represented by an instance of this

object does not include frames involved in

collisions.

This counter does not increment when the

interface is operating in full-duplex mode.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.9"

::= { dot3StatsEntry 7 }

dot3StatsLateCollisions OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "The number of times that a collision is

detected on a particular interface later than

one slotTime into the transmission of a packet.

A (late) collision included in a count

represented by an instance of this object is

also considered as a (generic) collision for

purposes of other collision-related

statistics.

This counter does not increment when the

interface is operating in full-duplex mode.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.10"

::= { dot3StatsEntry 8 }

dot3StatsExcessiveCollisions OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames for which transmission on a

particular interface fails due to excessive

collisions.

This counter does not increment when the

interface is operating in full-duplex mode.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.11"

::= { dot3StatsEntry 9 }

dot3StatsInternalMacTransmitErrors OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames for which transmission on a

particular interface fails due to an internal

MAC sublayer transmit error. A frame is only

counted by an instance of this object if it is

not counted by the corresponding instance of

either the dot3StatsLateCollisions object, the

dot3StatsExcessiveCollisions object, or the

dot3StatsCarrierSenseErrors object.

The precise meaning of the count represented by

an instance of this object is implementation-

specific. In particular, an instance of this

object may represent a count of transmission

errors on a particular interface that are not

otherwise counted.

For interfaces operating at 10 Gb/s, this

counter can roll over in less than 5 minutes if

it is incrementing at its maximum rate. Since

that amount of time could be less than a

management station's poll cycle time, in order

to avoid a loss of information, a management

station is advised to poll the

dot3HCStatsInternalMacTransmitErrors object for

10 Gb/s or faster interfaces.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.12"

::= { dot3StatsEntry 10 }

dot3StatsCarrierSenseErrors OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "The number of times that the carrier sense

condition was lost or never asserted when

attempting to transmit a frame on a particular

interface.

The count represented by an instance of this

object is incremented at most once per

transmission attempt, even if the carrier sense

condition fluctuates during a transmission

attempt.

This counter does not increment when the

interface is operating in full-duplex mode.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.13"

::= { dot3StatsEntry 11 }

-- { dot3StatsEntry 12 } is not assigned

dot3StatsFrameTooLongs OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames received on a particular

interface that exceed the maximum permitted

frame size.

The count represented by an instance of this

object is incremented when the frameTooLong

status is returned by the MAC service to the

LLC (or other MAC user). Received frames for

which multiple error conditions pertain are,

according to the conventions of IEEE 802.3

Layer Management, counted exclusively according

to the error status presented to the LLC.

For interfaces operating at 10 Gb/s, this

counter can roll over in less than 80 minutes if

it is incrementing at its maximum rate. Since

that amount of time could be less than a

management station's poll cycle time, in order

to avoid a loss of information, a management

station is advised to poll the

dot3HCStatsFrameTooLongs object for 10 Gb/s

or faster interfaces.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.25"

::= { dot3StatsEntry 13 }

-- { dot3StatsEntry 14 } is not assigned

-- { dot3StatsEntry 15 } is not assigned

dot3StatsInternalMacReceiveErrors OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames for which reception on a

particular interface fails due to an internal

MAC sublayer receive error. A frame is only

counted by an instance of this object if it is

not counted by the corresponding instance of

either the dot3StatsFrameTooLongs object, the

dot3StatsAlignmentErrors object, or the

dot3StatsFCSErrors object.

The precise meaning of the count represented by

an instance of this object is implementation-

specific. In particular, an instance of this

object may represent a count of receive errors

on a particular interface that are not

otherwise counted.

For interfaces operating at 10 Gb/s, this

counter can roll over in less than 5 minutes if

it is incrementing at its maximum rate. Since

that amount of time could be less than a

management station's poll cycle time, in order

to avoid a loss of information, a management

station is advised to poll the

dot3HCStatsInternalMacReceiveErrors object for

10 Gb/s or faster interfaces.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.15"

::= { dot3StatsEntry 16 }

dot3StatsSymbolErrors OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "For an interface operating at 100 Mb/s, the

number of times there was an invalid data symbol

when a valid carrier was present.

For an interface operating in half-duplex mode

at 1000 Mb/s, the number of times the receiving

media is non-idle (a carrier event) for a period

of time equal to or greater than slotTime, and

during which there was at least one occurrence

of an event that causes the PHY to indicate

'Data reception error' or 'carrier extend error'

on the GMII.

For an interface operating in full-duplex mode

at 1000 Mb/s, the number of times the receiving

media is non-idle (a carrier event) for a period

of time equal to or greater than minFrameSize,

and during which there was at least one

occurrence of an event that causes the PHY to

indicate 'Data reception error' on the GMII.

For an interface operating at 10 Gb/s, 40 Gb/s, and

100 Gb/s, it is a count of the number of times the

receiving media is non-idle (the time between the

Start of Packet Delimiter and the End of Packet

Delimiter) for a period of time equal to or greater

than minFrameSize, and during which there was at least

one occurrence of an event that causes the PHY to

indicate 'Receive Error' on the XGMII, the XLGMII,

or the CGMII.

The count represented by an instance of this

object is incremented at most once per carrier

event, even if multiple symbol errors occur

during the carrier event. This count does

not increment if a collision is present.

This counter does not increment when the

interface is operating at 10 Mb/s.

For interfaces operating at 10 Gb/s, this

counter can roll over in less than 5 minutes if

it is incrementing at its maximum rate. Since

that amount of time could be less than a

management station's poll cycle time, in order

to avoid a loss of information, a management

station is advised to poll the

dot3HCStatsSymbolErrors object for 10 Gb/s

or faster interfaces.

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."

REFERENCE "IEEE Std 802.3, 30.3.2.1.5"

::= { dot3StatsEntry 17 }

dot3StatsDuplexStatus OBJECT-TYPE

SYNTAX INTEGER {

unknown(1),

halfDuplex(2),

fullDuplex(3)

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION "The current mode of operation of the MAC

entity. 'unknown' indicates that the current

duplex mode could not be determined.

Management control of the duplex mode is

accomplished through the MAU MIB. When

an interface does not support autonegotiation,

or when autonegotiation is not enabled, the

duplex mode is controlled using

ifMauDefaultType. When autonegotiation is

supported and enabled, duplex mode is controlled

using ifMauAutoNegAdvertisedBits. In either

case, the currently operating duplex mode is

reflected both in this object and in ifMauType.

Note that this object provides redundant

information with ifMauType. Normally, redundant

objects are discouraged. However, in this

instance, it allows a management application to

determine the duplex status of an interface

without having to know every possible value of

ifMauType. This was felt to be sufficiently

valuable to justify the redundancy."

REFERENCE "IEEE Std 802.3, 30.3.1.1.32"

::= { dot3StatsEntry 18 }

dot3StatsRateControlAbility OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION "'true' for interfaces operating at speeds above

1000 Mb/s that support Rate Control through

lowering the average data rate of the MAC

sublayer, with frame granularity, and 'false'

otherwise."

REFERENCE "IEEE Std 802.3, 30.3.1.1.33"

::= { dot3StatsEntry 19 }

dot3StatsRateControlStatus OBJECT-TYPE

SYNTAX INTEGER {

rateControlOff(1),

rateControlOn(2),

unknown(3)

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION "The current Rate Control mode of operation of

the MAC sublayer of this interface."

REFERENCE "IEEE Std 802.3, 30.3.1.1.34"

::= { dot3StatsEntry 20 }

dot3StatsMaxFrameLength OBJECT-TYPE

SYNTAX INTEGER {

unknown(1),

baseFrame(2),

qTaggedFrame(3),

envelopeFrame(4)

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION "This indicates the MAC frame length at

which the dot3StatsFrameTooLongs counter is

incremented."

REFERENCE "IEEE Std 802.3, 30.3.1.1.37"

::= { dot3StatsEntry 21 }

-- the Ethernet-like Collision Statistics group

-- Implementation of this group is optional; it is appropriate

-- for all systems which have the necessary metering

dot3CollTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot3CollEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "A collection of collision histograms for a

particular set of interfaces."

REFERENCE "IEEE Std 802.3, 30.3.1.1.30"

::= { ieee8023etherMIBObjects 5 }

dot3CollEntry OBJECT-TYPE

SYNTAX Dot3CollEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "A cell in the histogram of per-frame

collisions for a particular interface. An

instance of this object represents the

frequency of individual MAC frames for which

the transmission (successful or otherwise) on a

particular interface is accompanied by a

particular number of media collisions."

INDEX { ifIndex, dot3CollCount }

::= { dot3CollTable 1 }

Dot3CollEntry ::=

SEQUENCE {

dot3CollCount Integer32,

dot3CollFrequencies Counter32

}

-- { dot3CollEntry 1 } is no longer in use

dot3CollCount OBJECT-TYPE

SYNTAX Integer32 (1..16)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "The number of per-frame media collisions for

which a particular collision histogram cell

represents the frequency on a particular

interface."

::= { dot3CollEntry 2 }

dot3CollFrequencies OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of individual MAC frames for which the

transmission (successful or otherwise) on a

particular interface occurs after the

frame has experienced exactly the number

of collisions in the associated

dot3CollCount object.

For example, a frame which is transmitted

on interface 77 after experiencing

exactly 4 collisions would be indicated

by incrementing only dot3CollFrequencies.77.4.

No other instance of dot3CollFrequencies would

be incremented in this example.

This counter does not increment when the

interface is operating in full-duplex mode.

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."

::= { dot3CollEntry 3 }

dot3ControlTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot3ControlEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "A table of descriptive and status information

about the MAC Control sublayer on the

Ethernet-like interfaces attached to a

particular system. There will be one row in

this table for each Ethernet-like interface in

the system which implements the MAC Control

sublayer. If some, but not all, of the

Ethernet-like interfaces in the system implement

the MAC Control sublayer, there will be fewer

rows in this table than in the dot3StatsTable."

::= { ieee8023etherMIBObjects 9 }

dot3ControlEntry OBJECT-TYPE

SYNTAX Dot3ControlEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "An entry in the table, containing information

about the MAC Control sublayer on a single

Ethernet-like interface."

INDEX { dot3StatsIndex }

::= { dot3ControlTable 1 }

Dot3ControlEntry ::=

SEQUENCE {

dot3ControlFunctionsSupported BITS,

dot3ControlInUnknownOpcodes Counter32,

dot3HCControlInUnknownOpcodes Counter64

}

dot3ControlFunctionsSupported OBJECT-TYPE

SYNTAX BITS {

pause(0), -- 802.3 pause flow control

mpcp(1), -- 802.3 multi-point control protocol

pfc(2), -- 802.3 priority-based flow control

extension(3) -- 802.3 extension MAC control frame

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A list of the possible MAC Control functions

implemented for this interface."

REFERENCE "IEEE Std 802.3, 30.3.3.2"

::= { dot3ControlEntry 1 }

dot3ControlInUnknownOpcodes OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of MAC Control frames received on this

interface that contain an opcode that is not

supported by this device.

For interfaces operating at 10 Gb/s, this

counter can roll over in less than 5 minutes if

it is incrementing at its maximum rate. Since

that amount of time could be less than a

management station's poll cycle time, in order

to avoid a loss of information, a management

station is advised to poll the

dot3HCControlInUnknownOpcodes object for 10 Gb/s

or faster interfaces.

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."

REFERENCE "IEEE Std 802.3, 30.3.3.5 "

::= { dot3ControlEntry 2 }

dot3HCControlInUnknownOpcodes OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of MAC Control frames received on this

interface that contain an opcode that is not

supported by this device.

This counter is a 64-bit version of

dot3ControlInUnknownOpcodes. It should be used

on interfaces operating at 10 Gb/s or faster.

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."

REFERENCE "IEEE Std 802.3, 30.3.3.5 "

::= { dot3ControlEntry 3 }

dot3PauseTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot3PauseEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "A table of descriptive and status information

about the MAC Control PAUSE function on the

Ethernet-like interfaces attached to a

particular system. There will be one row in

this table for each Ethernet-like interface in

the system which supports the MAC Control PAUSE

function (i.e., the 'pause' bit in the

corresponding instance of

dot3ControlFunctionsSupported is set). If some,

but not all, of the Ethernet-like interfaces in

the system implement the MAC Control PAUSE

function (for example, if some interfaces only

support half-duplex), there will be fewer rows

in this table than in the dot3StatsTable."

::= { ieee8023etherMIBObjects 10 }

dot3PauseEntry OBJECT-TYPE

SYNTAX Dot3PauseEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "An entry in the table, containing information

about the MAC Control PAUSE function on a single

Ethernet-like interface."

INDEX { dot3StatsIndex }

::= { dot3PauseTable 1 }

Dot3PauseEntry ::=

SEQUENCE {

dot3PauseAdminMode INTEGER,

dot3PauseOperMode INTEGER,

dot3InPauseFrames Counter32,

dot3OutPauseFrames Counter32,

dot3HCInPauseFrames Counter64,

dot3HCOutPauseFrames Counter64

}

dot3PauseAdminMode OBJECT-TYPE

SYNTAX INTEGER {

disabled(1),

enabledXmit(2),

enabledRcv(3),

enabledXmitAndRcv(4)

}

MAX-ACCESS read-write

STATUS current

DESCRIPTION "This object is used to configure the default

administrative PAUSE mode for this interface.

This object represents the

administratively-configured PAUSE mode for this

interface. If Auto-Negotiation is not enabled

or is not implemented for the active MAU

attached to this interface, the value of this

object determines the operational PAUSE mode

of the interface whenever it is operating in

full-duplex mode. In this case, a set to this

object will force the interface into the

specified mode.

If Auto-Negotiation is implemented and enabled

for the MAU attached to this interface, the

PAUSE mode for this interface is determined by

Auto-Negotiation, and the value of this object

denotes the mode to which the interface will

automatically revert if/when Auto-Negotiation is

later disabled. Note that when Auto-Negotiation

is running, administrative control of the PAUSE

mode may be accomplished using the

ifMauAutoNegCapAdvertisedBits object in the

MAU-MIB module.

Note that the value of this object is ignored

when the interface is not operating in

full-duplex mode.

An attempt to set this object to

'enabledXmit(2)' or 'enabledRcv(3)' will fail

on interfaces that do not support operation

at greater than 100 Mb/s."

::= { dot3PauseEntry 1 }

dot3PauseOperMode OBJECT-TYPE

SYNTAX INTEGER {

disabled(1),

enabledXmit(2),

enabledRcv(3),

enabledXmitAndRcv(4)

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION "This object reflects the PAUSE mode currently

in use on this interface, as determined by

either (1) the result of the Auto-Negotiation

function or (2) if Auto-Negotiation is not

enabled or is not implemented for the active MAU

attached to this interface, by the value of

dot3PauseAdminMode. Interfaces operating at

100 Mb/s or less will never return

'enabledXmit(2)' or 'enabledRcv(3)'. Interfaces

operating in half-duplex mode will return

'disabled(1)'. Interfaces on which

Auto-Negotiation is enabled but not yet

completed should return the value

'disabled(1)'."

::= { dot3PauseEntry 2 }

dot3InPauseFrames OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of MAC Control frames received on this

interface with an opcode indicating the PAUSE

operation.

This counter does not increment when the

interface is operating in half-duplex mode.

For interfaces operating at 10 Gb/s, this

counter can roll over in less than 5 minutes if

it is incrementing at its maximum rate. Since

that amount of time could be less than a

management station's poll cycle time, in order

to avoid a loss of information, a management

station is advised to poll the

dot3HCInPauseFrames object for 10 Gb/s or

faster interfaces.

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."

REFERENCE "IEEE Std 802.3, 30.3.4.3"

::= { dot3PauseEntry 3 }

dot3OutPauseFrames OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of MAC Control frames transmitted on

this interface with an opcode indicating the

PAUSE operation.

This counter does not increment when the

interface is operating in half-duplex mode.

For interfaces operating at 10 Gb/s, this

counter can roll over in less than 5 minutes if

it is incrementing at its maximum rate. Since

that amount of time could be less than a

management station's poll cycle time, in order

to avoid a loss of information, a management

station is advised to poll the

dot3HCOutPauseFrames object for 10 Gb/s or

faster interfaces.

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."

REFERENCE "IEEE Std 802.3, 30.3.4.2"

::= { dot3PauseEntry 4 }

dot3HCInPauseFrames OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of MAC Control frames received on this

interface with an opcode indicating the PAUSE

operation.

This counter does not increment when the

interface is operating in half-duplex mode.

This counter is a 64-bit version of

dot3InPauseFrames. It should be used on

interfaces operating at 10 Gb/s or faster.

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."

REFERENCE "IEEE Std 802.3, 30.3.4.3"

::= { dot3PauseEntry 5 }

dot3HCOutPauseFrames OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of MAC Control frames transmitted on

this interface with an opcode indicating the

PAUSE operation.

This counter does not increment when the

interface is operating in half-duplex mode.

This counter is a 64-bit version of

dot3OutPauseFrames. It should be used on

interfaces operating at 10 Gb/s or faster.

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."

REFERENCE "IEEE Std 802.3, 30.3.4.2"

::= { dot3PauseEntry 6 }

dot3HCStatsTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot3HCStatsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "A table containing 64-bit versions of error

counters from the dot3StatsTable. The 32-bit

versions of these counters may roll over quite

quickly on higher speed Ethernet interfaces.

The counters that have 64-bit versions in this

table are the counters that apply to full-duplex

interfaces, since 10 Gb/s and faster

Ethernet-like interfaces do not support

half-duplex, and very few 1000 Mb/s

Ethernet-like interfaces support half-duplex.

Entries in this table are recommended for

interfaces capable of operating at 1000 Mb/s or

faster, and are required for interfaces capable

of operating at 10 Gb/s or faster. Lower speed

Ethernet-like interfaces do not need entries in

this table, in which case there may be fewer

entries in this table than in the

dot3StatsTable. However, implementations

containing interfaces with a mix of speeds may

choose to implement entries in this table for

all Ethernet-like interfaces."

::= { ieee8023etherMIBObjects 11 }

dot3HCStatsEntry OBJECT-TYPE

SYNTAX Dot3HCStatsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "An entry containing 64-bit statistics for a

single Ethernet-like interface."

INDEX { dot3StatsIndex }

::= { dot3HCStatsTable 1 }

Dot3HCStatsEntry ::=

SEQUENCE {

dot3HCStatsAlignmentErrors Counter64,

dot3HCStatsFCSErrors Counter64,

dot3HCStatsInternalMacTransmitErrors Counter64,

dot3HCStatsFrameTooLongs Counter64,

dot3HCStatsInternalMacReceiveErrors Counter64,

dot3HCStatsSymbolErrors Counter64,

dot3HCStatsTransmitLPIMicroseconds Counter64,

dot3HCStatsReceiveLPIMicroseconds Counter64,

dot3HCStatsTransmitLPITransitions Counter64,

dot3HCStatsReceiveLPITransitions Counter64

}

dot3HCStatsAlignmentErrors OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames received on a particular

interface that are not an integral number of

octets in length and do not pass the FCS check.

The count represented by an instance of this

object is incremented when the alignmentError

status is returned by the MAC service to the

LLC (or other MAC user). Received frames for

which multiple error conditions pertain are,

according to the conventions of IEEE 802.3

Layer Management, counted exclusively according

to the error status presented to the LLC.

This counter does not increment for group

encoding schemes greater than 4 bits per group.

This counter is a 64-bit version of

dot3StatsAlignmentErrors. It should be used

on interfaces operating at 10 Gb/s or faster.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.7"

::= { dot3HCStatsEntry 1 }

dot3HCStatsFCSErrors OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames received on a particular

interface that are an integral number of octets

in length but do not pass the FCS check. This

count does not include frames received with

frame-too-long or frame-too-short error.

The count represented by an instance of this

object is incremented when the frameCheckError

status is returned by the MAC service to the

LLC (or other MAC user). Received frames for

which multiple error conditions pertain are,

according to the conventions of IEEE 802.3

Layer Management, counted exclusively according

to the error status presented to the LLC.

Note: Coding errors detected by the Physical

Layer for speeds above 10 Mb/s will cause the

frame to fail the FCS check.

This counter is a 64-bit version of

dot3StatsFCSErrors. It should be used on

interfaces operating at 10 Gb/s or faster.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.6"

::= { dot3HCStatsEntry 2 }

dot3HCStatsInternalMacTransmitErrors OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames for which transmission on a

particular interface fails due to an internal

MAC sublayer transmit error. A frame is only

counted by an instance of this object if it is

not counted by the corresponding instance of

either the dot3StatsLateCollisions object, the

dot3StatsExcessiveCollisions object, or the

dot3StatsCarrierSenseErrors object.

The precise meaning of the count represented by

an instance of this object is implementation-

specific. In particular, an instance of this

object may represent a count of transmission

errors on a particular interface that are not

otherwise counted.

This counter is a 64-bit version of

dot3StatsInternalMacTransmitErrors. It should

be used on interfaces operating at 10 Gb/s or

faster.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.12"

::= { dot3HCStatsEntry 3 }

dot3HCStatsFrameTooLongs OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames received on a particular

interface that exceed the maximum permitted

frame size.

The count represented by an instance of this

object is incremented when the frameTooLong

status is returned by the MAC service to the

LLC (or other MAC user). Received frames for

which multiple error conditions pertain are,

according to the conventions of IEEE 802.3

Layer Management, counted exclusively according

to the error status presented to the LLC.

This counter is a 64-bit version of

dot3StatsFrameTooLongs. It should be used on

interfaces operating at 10 Gb/s or faster.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.25"

::= { dot3HCStatsEntry 4 }

dot3HCStatsInternalMacReceiveErrors OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of frames for which reception on a

particular interface fails due to an internal

MAC sublayer receive error. A frame is only

counted by an instance of this object if it is

not counted by the corresponding instance of

either the dot3StatsFrameTooLongs object, the

dot3StatsAlignmentErrors object, or the

dot3StatsFCSErrors object.

The precise meaning of the count represented by

an instance of this object is implementation-

specific. In particular, an instance of this

object may represent a count of receive errors

on a particular interface that are not

otherwise counted.

This counter is a 64-bit version of

dot3StatsInternalMacReceiveErrors. It should be

used on interfaces operating at 10 Gb/s or

faster.

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."

REFERENCE "IEEE Std 802.3, 30.3.1.1.15"

::= { dot3HCStatsEntry 5 }

dot3HCStatsSymbolErrors OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "For an interface operating at 100 Mb/s, the

number of times there was an invalid data symbol

when a valid carrier was present.

For an interface operating in half-duplex mode

at 1000 Mb/s, the number of times the receiving

media is non-idle (a carrier event) for a period

of time equal to or greater than slotTime, and

during which there was at least one occurrence

of an event that causes the PHY to indicate

'Data reception error' or 'carrier extend error'

on the GMII.

For an interface operating in full-duplex mode

at 1000 Mb/s, the number of times the receiving

media is non-idle (a carrier event) for a period

of time equal to or greater than minFrameSize,

and during which there was at least one

occurrence of an event that causes the PHY to

indicate 'Data reception error' on the GMII.

For an interface operating at 10 Gb/s, 40 Gb/s and

100 Gb/s, the number of times the receiving media is

non-idle (a carrier event) for a period of time equal

to or greater than minFrameSize, and during which

there was at least one occurrence of an event

that causes the PHY to indicate 'Receive Error'

on the XGMII, the XLGMII, or the CGMII.

The count represented by an instance of this

object is incremented at most once per carrier

event, even if multiple symbol errors occur

during the carrier event. This count does

not increment if a collision is present.

This counter is a 64-bit version of

dot3StatsSymbolErrors. It should be used on

interfaces operating at 10 Gb/s or faster.

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."

REFERENCE "IEEE Std 802.3, 30.3.2.1.5"

::= { dot3HCStatsEntry 6 }

dot3HCStatsTransmitLPIMicroseconds OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count reflecting the amount of time that the

LPI\_REQUEST parameter has the value ASSERT. The

request is indicated to the PHY according to the

requirements of the RS (see IEEE Std 802.3, 22.7,

35.4, and 46.4).

This counter has a maximum increment rate of

1 000 000 counts per second."

REFERENCE "IEEE Std 802.3, 30.3.2.1.8"

::= { dot3HCStatsEntry 7 }

dot3HCStatsReceiveLPIMicroseconds OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count reflecting the amount of time that the

LPI\_INDICATION parameter has the value ASSERT. The

indication reflects the state of the PHY according to

the requirements of the RS (see IEEE Std 802.3, 22.7,

35.4, and 46.4).

This counter has a maximum increment rate of

1 000 000 counts per second."

REFERENCE "IEEE Std 802.3, 30.3.2.1.9"

::= { dot3HCStatsEntry 8 }

dot3HCStatsTransmitLPITransitions OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of occurrences of the transition from

state LPI\_DEASSERTED to state LPI\_ASSERTED of

the LPI transmit state diagram is the RS.

The state transition corresponds to the assertion

of the LPI\_REQUEST parameter. The request is indicated

to the PHY according to the requirements of the RS

(see IEEE Std 802.3, 22.7, 35.4, 46.4.)

This counter has a maximum increment rate of 50 000

counts per second at 100 Mb/s; 90 000 counts per

second at 1000 Mb/s; and 230 000 counts per second

at 10 Gb/s."

REFERENCE "IEEE Std 802.3, 30.3.2.1.10"

::= { dot3HCStatsEntry 9 }

dot3HCStatsReceiveLPITransitions OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of occurrences of the transition from DEASSERT

to ASSERT of the LPI\_INDICATE parameter. The

indication reflects the state of the PHY according to

the requirements of the RS

(see IEEE Std 802.3, 22.7, 35.4, and 46.4).

This counter has a maximum increment rate of 50 000

counts per second at 100 Mb/s; 90 000 counts per second

at 1000 Mb/s; and 230 000 counts per second at 10 Gb/s."

REFERENCE "IEEE Std 802.3, 30.3.2.1.11"

::= { dot3HCStatsEntry 10 }

dot3SlowProtocolFrameLimit OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-write

STATUS current

DESCRIPTION "The maximum number of Slow Protocol frames

of a given subtype that can be transmitted

in a one second interval. The default value

is 10."

REFERENCE "IEEE Std 802.3, 30.3.1.1.38"

DEFVAL { 10 }

::= { ieee8023etherMIBObjects 12 }

dot3ExtensionTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot3ExtensionEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "A table of status information

about the Extension MAC Control frames transmitted

and received on the Ethernet-like interfaces attached

to a particular system. There will be one row in

this table for each Ethernet-like interface in

the system which supports Extension MAC Control

function (i.e., the 'mpcp' bit in the

corresponding instance of

dot3ControlFunctionsSupported is set). If some,

but not all, of the Ethernet-like interfaces in

the system implement the Extension MAC Control

function, there will be fewer rows

in this table than in the dot3StatsTable."

::= { ieee8023etherMIBObjects 13 }

dot3ExtensionEntry OBJECT-TYPE

SYNTAX Dot3ExtensionEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "An entry in the table, containing information

about the Extension MAC Control function on a single

Ethernet-like interface."

INDEX { dot3StatsIndex }

::= { dot3ExtensionTable 1 }

Dot3ExtensionEntry ::=

SEQUENCE {

dot3HCInExtensionFrames Counter64,

dot3HCOutExtensionFrames Counter64,

dot3ExtensionMacCtrlStatus Unsigned32

}

dot3HCInExtensionFrames OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of Extension MAC Control frames received on

this interface.

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."

REFERENCE "IEEE Std 802.3, 30.3.8.2"

::= { dot3ExtensionEntry 1 }

dot3HCOutExtensionFrames OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of Extension MAC Control frames transmitted on

this interface.

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."

REFERENCE "IEEE Std 802.3, 30.3.8.1"

::= { dot3ExtensionEntry 2 }

dot3ExtensionMacCtrlStatus OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION "The current EXTENSIONMACCtrlStatus as described in

IEEE Std 802.3, 30.3.8.3."

REFERENCE "IEEE Std 802.3, 30.3.8.3"

::= { dot3ExtensionEntry 3 }

dot3PFCTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot3PFCEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "A table of descriptive and status information

about the MAC Control Priority-based Flow Control

function on the Ethernet-like interfaces attached to

a particular system. There will be one row in

this table for each Ethernet-like interface in

the system which supports the MAC Control PFC

function (i.e., the 'pfc' bit in the

corresponding instance of

dot3ControlFunctionsSupported is set). If some,

but not all, of the Ethernet-like interfaces in

the system implement the MAC Control PFC

function (for example, if some interfaces only

support half-duplex), there will be fewer rows

in this table than in the dot3StatsTable."

::= { ieee8023etherMIBObjects 14 }

dot3PFCEntry OBJECT-TYPE

SYNTAX Dot3PFCEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION "An entry in the table, containing information

about the MAC Control PFC function on a single

Ethernet-like interface."

INDEX { dot3StatsIndex }

::= { dot3PFCTable 1 }

Dot3PFCEntry ::=

SEQUENCE {

dot3PFCAdminMode INTEGER,

dot3PFCOperMode INTEGER,

dot3HCInPFCFrames Counter64,

dot3HCOutPFCFrames Counter64

}

dot3PFCAdminMode OBJECT-TYPE

SYNTAX INTEGER {

disabled(1),

enabled(2)

}

MAX-ACCESS read-write

STATUS current

DESCRIPTION "This object is used to configure the default

administrative PFC mode for this interface.

This object represents the

administratively-configured PFC mode for this

interface. The value of this

object determines the operational PFC mode

of the interface. A set to this

object will force the interface into the

specified mode.

Note that the value of this object is ignored

when the interface is not operating in

full-duplex mode."

::= { dot3PFCEntry 1 }

dot3PFCOperMode OBJECT-TYPE

SYNTAX INTEGER {

disabled(1),

enabled(2)

}

MAX-ACCESS read-only

STATUS current

DESCRIPTION "This object reflects the PFC mode currently

in use on this interface, as determined by

by the value of dot3PFCAdminMode."

REFERENCE "IEEE Std 802.3, 30.3.3.6"

::= { dot3PFCEntry 2 }

dot3HCInPFCFrames OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of MAC Control frames received on this

interface with an opcode indicating the PFC

operation.

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."

::= { dot3PFCEntry 3 }

dot3HCOutPFCFrames OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION "A count of MAC Control frames transmitted on

this interface with an opcode indicating the

PFC operation.

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."

::= { dot3PFCEntry 4 }

-- { ieee8023etherMIBObjects 6 }, the dot3ChipSets tree,

-- is defined in [RFC2666]

-- Conformance statements

etherConformance OBJECT IDENTIFIER ::= { ieee8023etherMIB 2 }

etherGroups OBJECT IDENTIFIER ::= { etherConformance 1 }

etherCompliances OBJECT IDENTIFIER ::= { etherConformance 2 }

-- Compliance statements

dot3Compliance2 MODULE-COMPLIANCE

STATUS current

DESCRIPTION "The compliance statement for managed network

entities which have Ethernet-like network

interfaces.

Note that compliance with this MIB module

requires compliance with the ifCompliance3

MODULE-COMPLIANCE statement of the IF-MIB

(IETF RFC 2863). In addition, compliance with this

MIB module requires compliance with the

mauModIfCompl3 MODULE-COMPLIANCE statement of

the MAU-MIB module defined in Clause 13."

MODULE -- this module

MANDATORY-GROUPS { etherStatsBaseGroup2 }

GROUP etherDuplexGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces which are

capable of operating in full-duplex mode.

It is highly recommended for all

Ethernet-like network interfaces."

GROUP etherRateControlGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces which are

capable of operating at speeds faster than

1000 Mb/s. It is highly recommended for all

Ethernet-like network interfaces."

GROUP etherStatsLowSpeedGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces which are

capable of operating at 10 Mb/s or slower in

half-duplex mode."

GROUP etherStatsHighSpeedGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces which are

capable of operating at 100 Mb/s or faster."

GROUP etherStatsHalfDuplexGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces which are

capable of operating in half-duplex mode."

GROUP etherHCStatsGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces which are

capable of operating at 10 Gb/s or faster.

It is recommended for all Ethernet-like

network interfaces which are capable of

operating at 1000 Mb/s or faster."

GROUP etherControlGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces that

support the MAC Control sublayer."

GROUP etherHCControlGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces that

support the MAC Control sublayer and are

capable of operating at 10 Gb/s or faster."

GROUP etherControlPauseGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces that

support the MAC Control PAUSE function."

GROUP etherHCControlPauseGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces that

support the MAC Control PAUSE function and

are capable of operating at 10 Gb/s or

faster."

GROUP etherCollisionTableGroup

DESCRIPTION "This group is optional. It is appropriate

for all Ethernet-like network interfaces

which are capable of operating in

half-duplex mode and have the necessary

metering. Implementation in systems with

such interfaces is highly recommended."

GROUP etherHCStatsLpiGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces that

support the Low Power Idle function."

GROUP etherSlowProtocolsGroup

DESCRIPTION "This group is optional. It is appropriate for

Ethernet-like network interfaces that implement OAM

as defined in Clause 57 of IEEE Std 802.3."

GROUP etherExtensionMacCtrlGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces that implement

Extension MAC Control."

GROUP etherPfcGroup

DESCRIPTION "This group is mandatory for all

Ethernet-like network interfaces that implement

Priority Flow Control."

::= { etherCompliances 1 }

-- units of conformance

etherCollisionTableGroup OBJECT-GROUP

OBJECTS { dot3CollFrequencies

}

STATUS current

DESCRIPTION "A collection of objects providing a histogram

of packets successfully transmitted after

experiencing exactly N collisions."

::= { etherGroups 1 }

etherStatsLowSpeedGroup OBJECT-GROUP

OBJECTS { dot3StatsSQETestErrors }

STATUS current

DESCRIPTION "A collection of objects providing information

applicable to Ethernet-like network interfaces

capable of operating at 10 Mb/s or slower in

half-duplex mode."

::= { etherGroups 2 }

etherStatsHighSpeedGroup OBJECT-GROUP

OBJECTS { dot3StatsSymbolErrors }

STATUS current

DESCRIPTION "A collection of objects providing information

applicable to Ethernet-like network interfaces

capable of operating at 100 Mb/s or faster."

::= { etherGroups 3 }

etherDuplexGroup OBJECT-GROUP

OBJECTS { dot3StatsDuplexStatus }

STATUS current

DESCRIPTION "A collection of objects providing information

about the duplex mode of an Ethernet-like

network interface."

::= { etherGroups 4 }

etherControlGroup OBJECT-GROUP

OBJECTS { dot3ControlFunctionsSupported,

dot3ControlInUnknownOpcodes

}

STATUS current

DESCRIPTION "A collection of objects providing information

about the MAC Control sublayer on Ethernet-like

network interfaces."

::= { etherGroups 5 }

etherControlPauseGroup OBJECT-GROUP

OBJECTS { dot3PauseAdminMode,

dot3PauseOperMode,

dot3InPauseFrames,

dot3OutPauseFrames

}

STATUS current

DESCRIPTION "A collection of objects providing information

about and control of the MAC Control PAUSE

function on Ethernet-like network interfaces."

::= { etherGroups 6 }

etherStatsBaseGroup2 OBJECT-GROUP

OBJECTS { dot3StatsAlignmentErrors,

dot3StatsFCSErrors,

dot3StatsInternalMacTransmitErrors,

dot3StatsFrameTooLongs,

dot3StatsInternalMacReceiveErrors,

dot3StatsMaxFrameLength

}

STATUS current

DESCRIPTION "A collection of objects providing information

applicable to all Ethernet-like network

interfaces."

::= { etherGroups 7 }

etherStatsHalfDuplexGroup OBJECT-GROUP

OBJECTS { dot3StatsSingleCollisionFrames,

dot3StatsMultipleCollisionFrames,

dot3StatsDeferredTransmissions,

dot3StatsLateCollisions,

dot3StatsExcessiveCollisions,

dot3StatsCarrierSenseErrors

}

STATUS current

DESCRIPTION "A collection of objects providing information

applicable only to half-duplex Ethernet-like

network interfaces."

::= { etherGroups 8 }

etherHCStatsGroup OBJECT-GROUP

OBJECTS { dot3HCStatsAlignmentErrors,

dot3HCStatsFCSErrors,

dot3HCStatsInternalMacTransmitErrors,

dot3HCStatsFrameTooLongs,

dot3HCStatsInternalMacReceiveErrors,

dot3HCStatsSymbolErrors

}

STATUS current

DESCRIPTION "A collection of objects providing high-capacity

statistics applicable to higher-speed

Ethernet-like network interfaces."

::= { etherGroups 9 }

etherHCControlGroup OBJECT-GROUP

OBJECTS { dot3HCControlInUnknownOpcodes }

STATUS current

DESCRIPTION "A collection of objects providing high-capacity

statistics for the MAC Control sublayer on

higher-speed Ethernet-like network interfaces."

::= { etherGroups 10 }

etherHCControlPauseGroup OBJECT-GROUP

OBJECTS { dot3HCInPauseFrames,

dot3HCOutPauseFrames

}

STATUS current

DESCRIPTION "A collection of objects providing high-capacity

statistics for the MAC Control PAUSE function on

higher-speed Ethernet-like network interfaces."

::= { etherGroups 11 }

etherRateControlGroup OBJECT-GROUP

OBJECTS { dot3StatsRateControlAbility,

dot3StatsRateControlStatus

}

STATUS current

DESCRIPTION "A collection of objects providing information

about the Rate Control function on Ethernet-like

interfaces."

::= { etherGroups 12 }

etherHCStatsLpiGroup OBJECT-GROUP

OBJECTS { dot3HCStatsTransmitLPIMicroseconds,

dot3HCStatsReceiveLPIMicroseconds,

dot3HCStatsTransmitLPITransitions,

dot3HCStatsReceiveLPITransitions

}

STATUS current

DESCRIPTION "A collection of objects providing information

about the Low Power Idle function on Ethernet-like

interfaces."

::= { etherGroups 13 }

etherSlowProtocolsGroup OBJECT-GROUP

OBJECTS { dot3SlowProtocolFrameLimit }

STATUS current

DESCRIPTION "An object providing control and information

about the frame transmission rate limit for

Slow Protocols on Ethernet-like interfaces."

::= { etherGroups 14 }

etherExtensionMacCtrlGroup OBJECT-GROUP

OBJECTS { dot3HCInExtensionFrames,

dot3HCOutExtensionFrames,

dot3ExtensionMacCtrlStatus

}

STATUS current

DESCRIPTION "A collection of objects providing information

about the Extension MAC Control function on

Ethernet-like interfaces."

::= { etherGroups 15 }

etherPfcGroup OBJECT-GROUP

OBJECTS { dot3PFCAdminMode,

dot3PFCOperMode,

dot3HCInPFCFrames,

dot3HCOutPFCFrames

}

STATUS current

DESCRIPTION "A collection of objects providing information

about the Priority Flow Control function on

Ethernet-like interfaces."

::= { etherGroups 16 }

END