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