IEEE8023-POWER-ETHERNET-MIB DEFINITIONS ::= BEGIN

IMPORTS

 MODULE-IDENTITY, OBJECT-TYPE, Integer32,

 Gauge32, Counter32, NOTIFICATION-TYPE, org

 FROM SNMPv2-SMI

 TruthValue

 FROM SNMPv2-TC

 MODULE-COMPLIANCE, OBJECT-GROUP, NOTIFICATION-GROUP

 FROM SNMPv2-CONF

 SnmpAdminString

 FROM SNMP-FRAMEWORK-MIB;

 ieee8023powerEthernetMIB MODULE-IDENTITY

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

 ORGANIZATION

 "IEEE 802.3 Working Group"

 CONTACT-INFO

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 DESCRIPTION

 "The MIB module for managing Power Source Equipment

 (PSE) specified in IEEE Std 802.3 Clause 33."

 REVISION "202307310000Z" – July 31, 2023

 DESCRIPTION

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

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

 and 2022."

 REVISION "201304110000Z" -- April 11, 2013

 DESCRIPTION

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

 REVISION "201102020000Z" -- February 2, 2011

 DESCRIPTION

 "Initial version, based on an earlier version published

 as RFC 3621."

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

 lan-man-stds(802) ieee802dot3(3) ieee802dot3dot1mibs(1) 8 }

pethNotifications OBJECT IDENTIFIER ::= { ieee8023powerEthernetMIB 0 }

pethObjects OBJECT IDENTIFIER ::= { ieee8023powerEthernetMIB 1 }

pethConformance OBJECT IDENTIFIER ::= { ieee8023powerEthernetMIB 2 }

-- PSE Objects

 pethPsePortTable OBJECT-TYPE

 SYNTAX SEQUENCE OF PethPsePortEntry

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

 "A table of objects that display and control the power

 characteristics of power Ethernet ports on a Power Source

 Equipment (PSE) device. This group will be implemented in

 managed power Ethernet switches and mid-span devices.

 Values of all read-write objects in this table are

 persistent at restart/reboot."

 ::= { pethObjects 1 }

 pethPsePortEntry OBJECT-TYPE

 SYNTAX PethPsePortEntry

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

 "A set of objects that display and control the power

 characteristics of a power Ethernet PSE port."

 INDEX { pethPsePortGroupIndex , pethPsePortIndex }

 ::= { pethPsePortTable 1 }

 PethPsePortEntry ::= SEQUENCE {

 pethPsePortGroupIndex Integer32,

 pethPsePortIndex Integer32,

 pethPsePortAdminEnable TruthValue,

 pethPsePortPowerPairsControlAbility TruthValue,

 pethPsePortPowerPairs INTEGER,

 pethPsePortDetectionStatus INTEGER,

 pethPsePortPowerPriority INTEGER,

 pethPsePortMPSAbsentCounter Counter32,

 pethPsePortType SnmpAdminString,

 pethPsePortPowerClassifications INTEGER,

 pethPsePortInvalidSignatureCounter Counter32,

 pethPsePortPowerDeniedCounter Counter32,

 pethPsePortOverLoadCounter Counter32,

 pethPsePortShortCounter Counter32,

 pethPsePortActualPower Integer32,

 pethPsePortPowerAccuracy Integer32,

 pethPsePortCumulativeEnergy Counter32

 }

 pethPsePortGroupIndex OBJECT-TYPE

 SYNTAX Integer32 (1..2147483647)

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

 "This variable uniquely identifies the group

 containing the port to which a power Ethernet PSE is

 connected. Group means box in the stack, module in a

 rack and the value 1 shall be used for non-modular devices.

 Furthermore, the same value shall be used in this variable,

 pethMainPseGroupIndex, and pethNotificationControlGroupIndex

 to refer to a given box in a stack or module in a rack."

 ::= { pethPsePortEntry 1 }

 pethPsePortIndex OBJECT-TYPE

 SYNTAX Integer32 (1..2147483647)

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

 "This variable uniquely identifies the power Ethernet PSE

 port within group pethPsePortGroupIndex to which the

 power Ethernet PSE entry is connected."

 ::= { pethPsePortEntry 2 }

 pethPsePortAdminEnable OBJECT-TYPE

 SYNTAX TruthValue

 MAX-ACCESS read-write

 STATUS current

 DESCRIPTION

 "true (1) An interface that can provide the PSE functions.

 false(2) The interface will act as it would if it had no PSE

 function."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.2"

 ::= { pethPsePortEntry 3 }

 pethPsePortPowerPairsControlAbility OBJECT-TYPE

 SYNTAX TruthValue

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "Describes the capability of controlling the power pairs

 functionality to switch pins for sourcing power.

 The value true indicate that the device has the capability

 to control the power pairs. When false the PSE Pinout

 Alternative used cannot be controlled through the

 PethPsePortAdminEnable attribute."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.3"

 ::= { pethPsePortEntry 4 }

 pethPsePortPowerPairs OBJECT-TYPE

 SYNTAX INTEGER {

 signal(1),

 spare(2)

 }

 MAX-ACCESS read-write

 STATUS current

 DESCRIPTION

 "Describes or controls the pairs in use. If the value of

 pethPsePortPowerPairsControl is true, this object is

 writeable.

 A value of signal(1) means that the signal pairs

 only are in use.

 A value of spare(2) means that the spare pairs

 only are in use."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.4"

 ::= { pethPsePortEntry 5 }

 pethPsePortDetectionStatus OBJECT-TYPE

 SYNTAX INTEGER {

 disabled(1),

 searching(2),

 deliveringPower(3),

 fault(4),

 test(5),

 otherFault(6)

 }

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "Describes the operational status of the port PD detection.

 A value of disabled(1)- indicates that the PSE State diagram

 is in the state DISABLED.

 A value of deliveringPower(3) - indicates that the PSE State

 diagram is in the state POWER\_ON for a duration greater than

 tlim max (see IEEE Std 802.3, Table 33-11).

 A value of fault(4) - indicates that the PSE State diagram is

 in the state TEST\_ERROR.

 A value of test(5) - indicates that the PSE State diagram is

 in the state TEST\_MODE.

 A value of otherFault(6) - indicates that the PSE State

 diagram is in the state IDLE due to the variable

 error\_conditions.

 A value of searching(2)- indicates the PSE State diagram is

 in a state other than those listed above."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.5"

 ::= { pethPsePortEntry 6 }

 pethPsePortPowerPriority OBJECT-TYPE

 SYNTAX INTEGER {

 critical(1),

 high(2),

 low(3)

 }

 MAX-ACCESS read-write

 STATUS current

 DESCRIPTION

 "This object controls the priority of the port from the point

 of view of a power management algorithm. The priority that

 is set by this variable could be used by a control mechanism

 that prevents over current situations by disconnecting first

 ports with lower power priority. Ports that connect devices

 critical to the operation of the network - like the E911

 telephones ports - should be set to higher priority."

 ::= { pethPsePortEntry 7 }

 pethPsePortMPSAbsentCounter OBJECT-TYPE

 SYNTAX Counter32

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "This counter is incremented when the PSE state diagram

 transitions directly from the state POWER\_ON to the

 state IDLE due to tmpdo\_timer\_done being asserted."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.11"

 ::= { pethPsePortEntry 8 }

 pethPsePortType OBJECT-TYPE

 SYNTAX SnmpAdminString

 MAX-ACCESS read-write

 STATUS current

 DESCRIPTION

 "A manager will set the value of this variable to indicate

 the type of powered device that is connected to the port.

 The default value supplied by the agent if no value has

 ever been set should be a zero-length octet string."

 ::= { pethPsePortEntry 9 }

 pethPsePortPowerClassifications OBJECT-TYPE

 SYNTAX INTEGER {

 class0(1),

 class1(2),

 class2(3),

 class3(4),

 class4(5)

 }

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "Classification is a way to tag different terminals on the

 Power over LAN network according to their power consumption.

 Devices such as IP telephones, WLAN access points and others,

 will be classified according to their power requirements.

 The meaning of the classification labels is defined in the

 IEEE specification.

 This variable is valid only while a PD is being powered,

 that is, while the attribute pethPsePortDetectionStatus

 is reporting the enumeration deliveringPower."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.6"

 ::= { pethPsePortEntry 10 }

 pethPsePortInvalidSignatureCounter OBJECT-TYPE

 SYNTAX Counter32

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "This counter is incremented when the PSE state diagram

 enters the state SIGNATURE\_INVALID."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.7"

 ::= { pethPsePortEntry 11 }

 pethPsePortPowerDeniedCounter OBJECT-TYPE

 SYNTAX Counter32

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "This counter is incremented when the PSE state diagram

 enters the state POWER\_DENIED."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.14"

 ::= { pethPsePortEntry 12 }

 pethPsePortOverLoadCounter OBJECT-TYPE

 SYNTAX Counter32

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "This counter is incremented when the PSE state diagram

 enters the state ERROR\_DELAY\_OVER."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.17"

 ::= { pethPsePortEntry 13 }

 pethPsePortActualPower OBJECT-TYPE

 SYNTAX Integer32

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "See IEEE Std 802.3, 30.9.1.1.12 aPSEActualPower."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.23"

 ::= { pethPsePortEntry 15 }

 pethPsePortPowerAccuracy OBJECT-TYPE

 SYNTAX Integer32

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "See IEEE Std 802.3, 30.9.1.1.13 aPSEPowerAccuracy."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.24"

 ::= { pethPsePortEntry 16 }

 pethPsePortCumulativeEnergy OBJECT-TYPE

 SYNTAX Counter32

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "See IEEE Std 802.3, 30.9.1.1.14 aPSECumulativeEnergy."

 REFERENCE

 "IEEE Std 802.3, 30.9.1.1.25"

 ::= { pethPsePortEntry 17 }

-- Main PSE Objects

pethMainPseObjects OBJECT IDENTIFIER ::= { pethObjects 3 }

pethMainPseTable OBJECT-TYPE

 SYNTAX SEQUENCE OF PethMainPseEntry

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

 "A table of objects that display and control attributes

 of the main power source in a PSE device. Ethernet

 switches are one example of devices that would support

 these objects.

 Values of all read-write objects in this table are

 persistent at restart/reboot."

 ::= { pethMainPseObjects 1 }

 pethMainPseEntry OBJECT-TYPE

 SYNTAX PethMainPseEntry

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

 "A set of objects that display and control the Main

 power of a PSE."

 INDEX { pethMainPseGroupIndex }

 ::= { pethMainPseTable 1 }

 PethMainPseEntry ::= SEQUENCE {

 pethMainPseGroupIndex

 Integer32,

 pethMainPsePower

 Gauge32 ,

 pethMainPseOperStatus

 INTEGER,

 pethMainPseConsumptionPower

 Gauge32,

 pethMainPseUsageThreshold

 Integer32

 }

 pethMainPseGroupIndex OBJECT-TYPE

 SYNTAX Integer32 (1..2147483647)

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

 "This variable uniquely identifies the group to which

 power Ethernet PSE is connected. Group means (box in

 the stack, module in a rack) and the value 1 shall be

 used for non-modular devices. Furthermore, the same

 value shall be used in this variable, pethPsePortGroupIndex,

 and pethNotificationControlGroupIndex to refer to a

 given box in a stack or module in a rack."

 ::= { pethMainPseEntry 1 }

 pethMainPsePower OBJECT-TYPE

 SYNTAX Gauge32 (1..65535)

 UNITS "Watts"

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "The nominal power of the PSE expressed in Watts."

 ::= { pethMainPseEntry 2 }

 pethMainPseOperStatus OBJECT-TYPE

 SYNTAX INTEGER {

 on(1),

 off(2),

 faulty(3)

 }

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "The operational status of the main PSE."

 ::= { pethMainPseEntry 3 }

 pethMainPseConsumptionPower OBJECT-TYPE

 SYNTAX Gauge32

 UNITS "Watts"

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "Measured usage power expressed in Watts."

 ::= { pethMainPseEntry 4 }

 pethMainPseUsageThreshold OBJECT-TYPE

 SYNTAX Integer32 (1..99)

 UNITS "%"

 MAX-ACCESS read-write

 STATUS current

 DESCRIPTION

 "The usage threshold expressed in percents for

 comparing the measured power and initiating

 an alarm if the threshold is exceeded."

 ::= { pethMainPseEntry 5 }

-- Notification Control Objects

pethNotificationControl OBJECT IDENTIFIER ::= { pethObjects 4 }

pethNotificationControlTable OBJECT-TYPE

 SYNTAX SEQUENCE OF PethNotificationControlEntry

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

 "A table of objects that display and control the

 Notification on a PSE device.

 Values of all read-write objects in this table are

 persistent at restart/reboot."

 ::= { pethNotificationControl 1 }

 pethNotificationControlEntry OBJECT-TYPE

 SYNTAX PethNotificationControlEntry

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

 "A set of objects that control the Notification events."

 INDEX { pethNotificationControlGroupIndex }

 ::= { pethNotificationControlTable 1 }

 PethNotificationControlEntry ::= SEQUENCE {

 pethNotificationControlGroupIndex

 Integer32,

 pethNotificationControlEnable

 TruthValue

 }

 pethNotificationControlGroupIndex OBJECT-TYPE

 SYNTAX Integer32 (1..2147483647)

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

 "This variable uniquely identifies the group. Group

 means box in the stack, module in a rack and the value

 1 shall be used for non-modular devices. Furthermore,

 the same value shall be used in this variable,

 pethPsePortGroupIndex, and

 pethMainPseGroupIndex to refer to a given box in a

 stack or module in a rack."

 ::= { pethNotificationControlEntry 1 }

 pethNotificationControlEnable OBJECT-TYPE

 SYNTAX TruthValue

 MAX-ACCESS read-write

 STATUS current

 DESCRIPTION

 "This object controls, on a per-group basis, whether

 or not notifications from the agent are enabled. The

 value true(1) means that notifications are enabled; the

 value false(2) means that they are not."

 ::= { pethNotificationControlEntry 2 }

--

-- Notifications Section

--

--

 pethPsePortOnOffNotification NOTIFICATION-TYPE

 OBJECTS { pethPsePortDetectionStatus }

 STATUS current

 DESCRIPTION

 "This Notification indicates if Pse Port is delivering or

 not power to the PD. This Notification should be sent on

 every status change except in the searching mode.

 At least 500 msec shall elapse between notifications

 being emitted by the same object instance."

 ::= { pethNotifications 1 }

 pethMainPowerUsageOnNotification NOTIFICATION-TYPE

 OBJECTS { pethMainPseConsumptionPower }

 STATUS current

 DESCRIPTION

 "This Notification indicate PSE Threshold usage

 indication is on, the usage power is above the

 threshold. At least 500 msec shall elapse between

 notifications being emitted by the same object

 instance."

 ::= { pethNotifications 2 }

 pethMainPowerUsageOffNotification NOTIFICATION-TYPE

 OBJECTS { pethMainPseConsumptionPower }

 STATUS current

 DESCRIPTION

 "This Notification indicates PSE Threshold usage indication

 off, the usage power is below the threshold.

 At least 500 msec shall elapse between notifications being

 emitted by the same object instance."

 ::= { pethNotifications 3 }

--

-- Conformance statements

--

pethCompliances OBJECT IDENTIFIER ::= { pethConformance 1 }

pethGroups OBJECT IDENTIFIER ::= { pethConformance 2 }

-- Compliance statements

pethCompliance MODULE-COMPLIANCE

 STATUS current

 DESCRIPTION

 "Describes the requirements for conformance to the

 Power Ethernet MIB."

 MODULE -- this module

 MANDATORY-GROUPS { pethPsePortGroup,

 pethPsePortNotificationGroup,

 pethNotificationControlGroup

 }

 GROUP pethMainPseGroup

 DESCRIPTION

 "The pethMainPseGroup is mandatory for PSE systems

 that implement a main power supply."

 GROUP pethMainPowerNotificationGroup

 DESCRIPTION

 "The pethMainPowerNotificationGroup is mandatory for

 PSE systems that implement a main power supply."

 ::= { pethCompliances 1 }

pethPsePortGroup OBJECT-GROUP

 OBJECTS {

 pethPsePortAdminEnable,

 pethPsePortPowerPairsControlAbility,

 pethPsePortPowerPairs,

 pethPsePortDetectionStatus,

 pethPsePortPowerPriority,

 pethPsePortMPSAbsentCounter,

 pethPsePortInvalidSignatureCounter,

 pethPsePortPowerDeniedCounter,

 pethPsePortOverLoadCounter,

 pethPsePortShortCounter,

 pethPsePortType,

 pethPsePortPowerClassifications,

 pethPsePortActualPower,

 pethPsePortPowerAccuracy,

 pethPsePortCumulativeEnergy

 }

 STATUS current

 DESCRIPTION

 "PSE Port objects."

 ::= { pethGroups 1 }

pethMainPseGroup OBJECT-GROUP

 OBJECTS {

 pethMainPsePower,

 pethMainPseOperStatus,

 pethMainPseConsumptionPower,

 pethMainPseUsageThreshold

 }

 STATUS current

 DESCRIPTION

 "Main PSE Objects."

 ::= { pethGroups 2 }

pethNotificationControlGroup OBJECT-GROUP

 OBJECTS {

 pethNotificationControlEnable

 }

 STATUS current

 DESCRIPTION

 "Notification Control Objects."

 ::= { pethGroups 3 }

pethPsePortNotificationGroup NOTIFICATION-GROUP

 NOTIFICATIONS { pethPsePortOnOffNotification}

 STATUS current

 DESCRIPTION "Pse Port Notifications."

 ::= { pethGroups 4 }

 pethMainPowerNotificationGroup NOTIFICATION-GROUP

 NOTIFICATIONS { pethMainPowerUsageOnNotification,

 pethMainPowerUsageOffNotification}

 STATUS current

 DESCRIPTION "Main PSE Notifications."

 ::= { pethGroups 5 }

END