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                  Precision Time Protocol Version 2 (PTPv2)
                        Management Information Base
                       draft-ietf-tictoc-ptp-mib-12.txt

Status of this Memo

Copyright Notice

Abstract

This memo defines a portion of the Management Information Base (MIB)
for use with network management protocols in TCP/IP-based internets.
In particular, it defines objects for managing networks using
Precision Time Protocol (PTP), specified in IEEE Std. 1588(TM)-2008.

This memo specifies a MIB module in a manner that is both compliant
to the SMIv2, and semantically identical to the peer SMIv1
definitions.

Table of Contents

1. Introduction

   This memo defines a portion of the Management Information Base (MIB)
   module for use with network management protocols in the Internet
   Community. In particular, it describes managed objects used for
   managing PTP devices including the ordinary clock, transparent clock,
   boundary clocks.

   This MIB module is restricted to reading standard PTP data elements,
   as described in [IEEE 1588-2008]. This enables it to monitor the
   operation of PTP clocks within the network. It is envisioned this
   MIB module will complement other managed objects to be defined that
   will provide more detailed information on the performance of PTP

clocks supporting the Telecom Profile defined in [G.8265.1], and any future profiles that may be defined. Those objects are considered out of scope for the current draft.

Similarly, this MIB module is read-only and not intended to provide the ability to configure PTP clocks. Since PTP clocks are often embedded in other network elements such as routers, switches and gateways, this ability is generally provided via the configuration interface for the network element.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC 2119].

1.1. Relationship to other Profiles and MIBs

This MIB module is intended to be used with the default PTP profile described in [IEEE 1588-2008] when running over the IP network layer. As stated above, it is envisioned this MIB module will complement other managed objects to be defined to monitor and measure the performance of PTP clocks supporting specific PTP profiles, e.g. the Telecom Profile defined in [G.8265.1].

Some other PTP profiles have their own MIB modules defined as part of the profile, and this MIB module is not intended to replace those MIB modules.

1.2. Change Log

This section tracks changes made to the revisions of the Internet Drafts of this document. It will be *deleted* when the document is published as an RFC.

draft-vinay-tictoc-ptp-mib

-00 Mar 11 Initial version; showed structure of MIB

draft-ietf-tictoc-ptp-mib

-00 Jul 11 First full, syntactically correct and compileable MIB

-01 Jan 12 Revised following comments from Bert Wijnen:
             - revised introduction to clarify the scope, and the
               relationship to other MIBs and profiles
             - changed name to "ptpbase"
             - corrected some data types
             - corrected references and typos

-02 Jul 12 Revised following comment at IETF83:

                        - changed "ptpbaseClockPortRunningIPversion" to the more
                          generic "ptpbaseClockPortRunningTransport", covering
                          all transport types defined in [IEEE 1588-2008]
                          (i.e. IPv4, IPv6, Ethernet, DeviceNet and ControlNet).
                        - changed addresses associated with transports from
                          "InetAddress" (for the IP transport) to a string,
                          to allow for the different transport types.

    -03 Jul 12 Minor changes following comments from Andy Bierman:
                        - corrected some compilation errors
                        - moved OBJECT-GROUP and MODULE-COMPLIANCE macros to the
                          end

    -04 Jan 13 Changes:
                        - Use of 'AutonomousType' import
                        - Display hint being specified for ClockIdentity,
                          ClockInterval, ClockPortTransportTypeAddress
                          Textual Conventions
                        - Removal of the Textual convention
                          ClockPortTransportType, replaced with the
                          wellKnownTransportTypes
                        - Modified ptpbaseClockPortCurrentPeerAddressType,
                          ptpbaseClockPortRunningTransport,
                          ptpbaseClockPortAssociateAddressType, to use
                          AutonomousType.
                        - various textual changes to descriptive text in
                          response to comments

    -05 Feb 13 Several changes in response to comments from Alun Luchuk
                 and Kevin Gross:
                        - Modified the use of wellKnownTransportTypes and
                          wellKnownEncapsulationTypes
                        - changed ptpbaseClockPortSyncOneStep to
                          ptpbaseClockPortSyncTwoStep to match [IEEE 1588-2008]
                          semantics
                        - Re-ordered textual conventions to be alphabetic
                        - Changed some types from Integer32 to use defined
                          textual conventions
                        - various minor descriptive text changes

    -06 Mar 14 Updated author information, and fixed typos

    -07 Mar 15 Updated author information, and fixed typo/enum

    -08 Feb 16 Updated MIB in response to Brian Haberman's comments:
                        - Fixed MIB date
                        - Fixed references to [IEEE 1588-2008]
                        - Changed "router" for "node"

-09 Apr 16 Updated following Dan Romascanu's MIB Doctor comments

-10 Aug 16 Update following further feedback from Dan Romascanu.
             Also updated security section to list out all objects
             with MAX-ACCESS other than non-accessible, in response
             to comments from Deborah Brungard and Alissa Cooper.

-11 Aug 16 Used corrected version of MIB text
             - Reduced the DESCIPTION section and moved to section 3
             - Added clarification that PtpClockIdentity can also be
               non-EUI-64 address
             - Clarifications on PtpClockPortTransportTypeAddress,
               and mentioned counters being discontinuous
             - Made PtpClockQualityClassType as enumeration
             Updated overview section with a longer description.

-12 Mar 17 Replaced direct quotations of [IEEE 1588-2008] with
             references to avoid copyright issues.

2. The SNMP Management Framework

   The SNMP Management Framework presently consists of five major
   components:

   o An overall architecture, described in STD62, [RFC 3411].

   o Mechanisms for describing and naming objects and events for the
     purpose of management. The first version of this Structure of
     Management Information (SMI) is called SMIv1 and described in
     STD 16: [RFC 1155], [RFC 1212] and [RFC 1215].
     The second version, called SMIv2, is described in STD 58:
     [RFC 2578], [RFC 2579] and [RFC 2580].

   o Message protocols for transferring management information. The
     first version of the SNMP message protocol is called SNMPv1 and
     described in STD 15 [RFC 1157]. A second version of the SNMP
     message protocol, which is not an Internet standards track
     protocol, is called SNMPv2c and described in [RFC 1901] and
     [RFC 1906]. The third version of the message protocol is called
     SNMPv3 and described in STD62: [RFC 3417], [RFC 3412] and [RFC
     3414].

   o Protocol operations for accessing management information. The
     first set of protocol operations and associated PDU formats is
     described in STD 15 [RFC 1157]. A second set of protocol
     operations and associated PDU formats is described in STD 62
     [RFC 3416].

   o A set of fundamental applications described in STD 62 [RFC 3413]

and the view-based access control mechanism described in STD 62
[RFC 3415].

Managed objects are accessed via a virtual information store, termed
the Management Information Base or MIB. Objects in the MIB are
defined using the mechanisms defined in the SMI.

This memo specifies a MIB module that is compliant to the SMIv2. A
MIB module conforming to the SMIv1 can be produced through the
appropriate translations. The resulting translated MIB must be
semantically equivalent, except where objects or events are omitted
because no translation is possible (e.g., use of Counter64). Some
machine readable information in SMIv2 will be converted into textual
descriptions in SMIv1 during the translation process. However, this
loss of machine readable information is not considered to change the
semantics of the MIB module.

3. Overview

The objects defined in this MIB module are to be used when describing
the Precision Time Protocol (PTP), as defined in [IEEE 1588-2008].

Section 6 of [IEEE 1588-2008] provides an overview of synchronization
networks using PTP.

Terms used in this document have meanings as defined in section 3.1
of [IEEE 1588-2008].

4. IETF PTP MIB Definition

PTPBASE-MIB DEFINITIONS ::= BEGIN

IMPORTS
    MODULE-IDENTITY,
    OBJECT-TYPE,
    OBJECT-IDENTITY,
    Gauge32,
    Unsigned32,
    Counter32,
    Counter64,
    mib-2,
    Integer32
        FROM SNMPv2-SMI
    OBJECT-GROUP,
    MODULE-COMPLIANCE
        FROM SNMPv2-CONF
    TEXTUAL-CONVENTION,
    TruthValue,
    DisplayString,

```
     AutonomousType
         FROM SNMPv2-TC
     InterfaceIndexOrZero
         FROM IF-MIB;


ptpbaseMIB MODULE-IDENTITY
     LAST-UPDATED     "201703120000Z"
     ORGANIZATION     "TICTOC Working Group"
     CONTACT-INFO
           "WG Email: tictoc@ietf.org

           Vinay Shankarkumar
           Cisco Systems,
           Email: vinays@cisco.com

           Laurent Montini,
           Cisco Systems,
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           Tim Frost,
           Calnex Solutions Ltd.,
           Email: tim.frost@calnexsol.com

           Greg Dowd,
           Microsemi Inc.,
           Email: greg.dowd@microsemi.com"

     DESCRIPTION
         "The MIB module for PTP version 2 (IEEE Std. 1588(TM)-2008)

         Overview of PTP version 2 (IEEE Std. 1588(TM)-2008)

         [IEEE 1588-2008] defines a protocol enabling precise
         synchronization of clocks in measurement and control systems
         implemented with packet-based networks, the Precision Time
         Protocol Version 2 (PTPv2).  This MIB module does not address
         the earlier version IEEE Std. 1588(TM)-2002 (PTPv1).  The
         protocol is applicable to network elements communicating using
         IP.  The protocol enables heterogeneous systems that include
         clocks of various inherent precision, resolution, and stability
         to synchronize to a grandmaster clock.

         The protocol supports system-wide synchronization accuracy in
         the sub-microsecond range with minimal network and local clock
         computing resources. [IEEE 1588-2008] uses UDP/IP or
         Ethernet and can be adapted to other mappings. It includes
         formal mechanisms for message extensions, higher sampling rates,
         correction for asymmetry, a clock type to reduce error
```

accumulation in large topologies, and specifications on how to
incorporate the resulting additional data into the
synchronization protocol. The [IEEE 1588-2008] defines
conformance and management capability also.

MIB description

This MIB module supports the Precision Time Protocol version 2
(PTPv2, hereafter designated as PTP) features of network element
system devices, when using the default PTP profile described in
[IEEE 1588-2008] when running over the IP network layer.

It is envisioned this MIB module will complement other managed
objects to be defined to monitor and measure the performance of
the PTP devices and telecom clocks supporting specific PTP
profiles.

Some other PTP profiles have their own MIB modules defined as
part of the profile, and this MIB module is not intended to
replace those MIB modules.

Technical terms used in this module are defined in [IEEE 1588-
2008].

The MIB module refers to the sections of [IEEE 1588-2008].

Acronyms:
     ARB   Arbitrary Timescale
     E2E   End-to-End
     EUI   Extended Unique Identifier
     GPS   Global Positioning System
     IANA   Internet Assigned Numbers Authority
     IP   Internet Protocol
     MAC   Media Access Control
               according to [IEEE 802.3-2008]
     MAC-48   Used to identify hardware instances within 802-based
               networking applications. This is obsolete now.
     NIST   National Institute of Standards and Technology
     NTP   Network Time Protocol (see IETF [RFC 5905])
     OUI   Organizational Unique Identifier
               (allocated by the IEEE)
     P2P   Peer-to-Peer
     PTP   Precision Time Protocol
     TAI   International Atomic Time
     TC   Transparent Clock
     UDP   User Datagram Protocol
     UTC   Coordinated Universal Time

References:

[IEEE 1588-2008] IEEE Standard for A Precision Clock
     Synchronization Protocol for Networked Measurement and
     Control Systems, IEEE Std. 1588(TM)-2008, 24 July 2008.

The below table specifies the object formats of the various
textual conventions used.

Data type mapping   Textual Convention   SYNTAX
------------------   -------------------- ------------------
5.3.2 TimeInterval   PtpClockTimeInterval OCTET
STRING(SIZE(1..255))
5.3.3 Timestamp   PtpClockTimestamp   OCTET STRING(SIZE(6))
5.3.4 ClockIdentity PtpClockIdentity   OCTET STRING(SIZE(8))
5.3.5 PortIdentity   PtpClockPortNumber   INTEGER(1..65535)
5.3.7 ClockQuality   PtpClockQualityClassType
"

-- revision log
REVISION   "201703120000Z"
DESCRIPTION   "Draft 12, for IESG approval remvoed the IEEE
standard texts."

REVISION   "201608240000Z"
DESCRIPTION   "Draft 11, for IESG approval after all comments,
including the correct MIB."

REVISION   "201608220000Z"
DESCRIPTION   "Draft 10, for IESG approval after all comments
addressed."

REVISION   "201604200000Z"
DESCRIPTION   "Draft 9, for IESG approval."

REVISION   "201602220000Z"
DESCRIPTION   "Draft 8, for IETF last call."

::= { mib-2 XXX } -- XXX to be assigned by IANA

-- Textual Conventions

PtpClockDomainType ::= TEXTUAL-CONVENTION
    DISPLAY-HINT   "d"
    STATUS   current
    DESCRIPTION
        "The Domain is identified by an integer, the domainNumber, in
        the range of 0 to 255. An integer value that is used to assign
        each PTP device to a particular domain."

     REFERENCE   "Section 7.1 Domains, Table 2 of [IEEE 1588-2008]"
     SYNTAX   Unsigned32 (0..255)

PtpClockIdentity ::= TEXTUAL-CONVENTION
     DISPLAY-HINT   "255a"
     STATUS   current
     DESCRIPTION
         "The clock Identity is an 8-octet array and will be presented in
         the form of a character array. Network byte order is assumed.

         The value of the PtpClockIdentity should be taken from the
         IEEE EUI-64 individual assigned numbers as indicated in
         Section 7.5.2.2.2 of [IEEE 1588-2008]. It can also be non-EUI-64
         address as defined in section 7.5.2.2.3 of [IEEE 1588-2008].

         The clock identifier can be constructed from existing EUI-48
         assignments and here is an abbreviated example extracted from
         section 7.5.2.2.2 [IEEE 1588-2008]."

     REFERENCE   "Section 7.5.2.2.1 of [IEEE 1588-2008]"
     SYNTAX   OCTET STRING (SIZE (8))

PtpClockInstanceType ::= TEXTUAL-CONVENTION
     DISPLAY-HINT   "d"
     STATUS   current
     DESCRIPTION
         "The instance of the Clock of a given clock type in a given
         domain."
     SYNTAX   Unsigned32 (0..255)

PtpClockIntervalBase2 ::= TEXTUAL-CONVENTION
     DISPLAY-HINT   "d"
     STATUS   current
     DESCRIPTION
         "The interval included in message types Announce, Sync,
         Delay_Req, and Pdelay_Req as indicated in section 7.7.2.1 of
         [IEEE 1588-2008]."

     REFERENCE   "Section 7.7.2.1 General interval specification of
                  [IEEE 1588-2008]"
     SYNTAX   Integer32 (-128..127)

PtpClockMechanismType ::= TEXTUAL-CONVENTION
     STATUS   current
     DESCRIPTION
         "The clock type based on whether end-to-end or peer-to-peer
         mechanisms are used. The mechanism used to calculate the Mean
         Path Delay as indicated in Table 9 of [IEEE 1588-2008]."

     REFERENCE
         "Sections 8.2.5.4.4 portDS.delayMechanism,
         6.6.4 Measuring link propagation delay in clocks supporting
         peer-to-peer path correction,
         7.4.2 communication Path asymmetry of [IEEE 1588-2008]."
     SYNTAX   INTEGER {
                     e2e(1),
                     p2p(2),
                     disabled(254)
                     }

PtpClockPortNumber ::= TEXTUAL-CONVENTION
     DISPLAY-HINT   "d"
     STATUS   current
     DESCRIPTION
         "An index identifying a specific Precision Time Protocol (PTP)
         port on a PTP node."

     REFERENCE
         "Sections 7.5.2.3 portNumber and 5.3.5 PortIdentity of
         [IEEE 1588-2008]"
     SYNTAX   Unsigned32 (0..65535)

PtpClockPortState ::= TEXTUAL-CONVENTION
     STATUS   current
     DESCRIPTION
         "This is the value of the current state of the protocol engine
         associated with this port."

     REFERENCE
         "Section 8.2.5.3.1 portState and 9.2.5 State machines of
         [IEEE 1588-2008]"
     SYNTAX   INTEGER {
                         initializing(1),
                         faulty(2),
                         disabled(3),
                         listening(4),
                         preMaster(5),
                         master(6),
                         passive(7),
                         uncalibrated(8),
                         slave(9)
                     }

PtpClockPortTransportTypeAddress ::= TEXTUAL-CONVENTION
     DISPLAY-HINT   "255a"
     STATUS   current
     DESCRIPTION

          "The Clock port transport protocol address used for this
           communication between the clock nodes. This is a string
           corresponding to the address type as specified by the
           transport type used. The transport types can be defined
           elsewhere, in addition to the ones defined in this document.
           This can be an address of type IP version 4, IP version 6,
           Ethernet, DeviceNET, ControlNET or IEC61158. The OCTET STRING
           representation of the OID of ptpbaseWellKnownTransportTypes
           will be used in the values contained in the OCTET STRING."

      REFERENCE   "Annex D (IPv4), Annex E (IPv6), Annex F (Ethernet),
                    Annex G (DeviceNET), Annex H (ControlNET) and
                    Annex I (IEC61158) of [IEEE 1588-2008]"
      SYNTAX   OCTET STRING (SIZE (1..255))

  PtpClockProfileType ::= TEXTUAL-CONVENTION
      STATUS   current
      DESCRIPTION
          "Clock Profile used. A profile is the set of allowed Precision
          Time Protocol (PTP) features applicable to a device."

      REFERENCE   "Section 3.1.30 profile and 19.3 PTP profiles of
                        [IEEE 1588-2008]"
      SYNTAX   INTEGER {
                           default(1),
                           telecom(2),
                           vendorspecific(3)
                       }

  PtpClockQualityAccuracyType ::= TEXTUAL-CONVENTION
      STATUS   current
      DESCRIPTION
          "The ClockQuality as specified in sections 5.3.7, 7.6.2.5 and
          Table 6 of [IEEE 1588-2008].

          The following values are not represented in the enumerated
          values.

                  0x01-0x1F Reserved
                  0x32-0x7F Reserved

          It is important to note that section 7.1.1 of [RFC 2578] allows
          for gaps and enumerate values starting at zero when indicated by
          the protocol."

      REFERENCE
          "Section 5.3.7 ClockQuality, 7.6.2.5 clockAccuracy and Table 6
          clockAccuracy enumeration of [IEEE 1588-2008]"
      SYNTAX   INTEGER {

```
                      -- reserved00(0:31), 0x00 to 0x1F
                         nanoSecond25(32),    -- 0x20
                         nanoSecond100(33),   -- 0x21
                         nanoSecond250(34),   -- 0x22
                         microSec1(35),       -- 0x23
                         microSec2dot5(36),   -- 0x24
                         microSec10(37),      -- 0x25
                         microSec25(38),      -- 0x26
                         microSec100(39),     -- 0x27
                         microSec250(40),     -- 0x28
                         milliSec1(41),       -- 0x29
                         milliSec2dot5(42),   -- 0x2A
                         milliSec10(43),      -- 0x2B
                         milliSec25(44),      -- 0x2C
                         milliSec100(45),     -- 0x2D
                         milliSec250(46),     -- 0x2E
                         second1(47),         -- 0x2F
                         second10(48),        -- 0x30
                         secondGreater10(49), -- 0x31
                         unknown(254)         -- 0xFE
                      -- reserved255(255),    0xFF
                     }

PtpClockQualityClassType ::= TEXTUAL-CONVENTION
     STATUS          current
     DESCRIPTION
         "The ClockQuality as specified in section 5.3.7 ClockQuality,
         7.6.2.4 clockClass and Table 5 clockClass specifications of
         [IEEE 1588-2008]."

     REFERENCE       "Section 5.3.7, 7.6.2.4 and Table 5 of
                      [IEEE 1588-2008]."
     SYNTAX          INTEGER  {
                      -- reserved(0), 0x00
                      -- reserved(1:5), 0x01 to 0x05
                         clockclass6(6), -- 0x06
                         clockclass7(7), -- 0x07
                      -- reserved(8), 0x08
                      -- reserved(9:10), 0x09 to 0x0A
                      -- reserved(11:12), 0x0B, 0x0C
                         clockclass13(13), -- 0x0D
                         clockclass14(14), -- 0x0E
                      -- reserved(15:51), 0x0F to 0x33
                         clockclass52(52), -- 0x34
                      -- reserved(53:57), 0x35 to 0x39
                         clockclass58(58) -- 0x3A
                      -- reserved(59:67), 0x3B to 0x43
                      -- otherprofiles(68:122), 0x44 to 0x7A
                      -- reserved(123:127), 0x7B to 0x7F
```

```
                          -- reserved(128:132), 0x80 to 0x84
                    }

PtpClockRoleType ::= TEXTUAL-CONVENTION
    STATUS          current
    DESCRIPTION
        "The Clock Role. The protocol generates a Master Slave
        relationship among the clocks in the system.

        Clock Role      Value
        ------------------------
        Master clock    1
        Slave clock     2       "
    SYNTAX          INTEGER  {
                        master(1),
                        slave(2)
                    }

PtpClockStateType ::= TEXTUAL-CONVENTION
    STATUS          current
    DESCRIPTION
        "The clock state returned by a PTP engine.

        Clock State     Value
        ------------------------
        Freerun state       1
        Holdover state      2
        Acquiring state     3
        Freq_locked state   4
        Phase_aligned state 5  "
    SYNTAX          INTEGER  {
                        freerun(1),
                        holdover(2),
                        acquiring(3),
                        frequencyLocked(4),
                        phaseAligned(5)
                    }

PtpClockTimeInterval ::= TEXTUAL-CONVENTION
    DISPLAY-HINT    "255a"
    STATUS          current
    DESCRIPTION
        "This textual convention corresponds to the TimeInterval
        structure indicated in section 5.3.2 of [IEEE 1588-2008].
        It will be presented in the form of a character array.
        Network byte order is assumed."

    REFERENCE
        "Section 5.3.2 TimeInterval and section 7.7.2.1 Timer interval
```

          specification of [IEEE 1588-2008]"
     SYNTAX   OCTET STRING (SIZE (1..255))

PtpClockTimeSourceType ::= TEXTUAL-CONVENTION
     STATUS   current
     DESCRIPTION
         "The ClockQuality as specified in Sections 5.3.7, 7.6.2.6 and
         Table 7 of [IEEE 1588-2008].

         The following values are not represented in the enumerated
         values.

         0xF0-0xFE For use by alternate PTP profiles
         0xFF   Reserved

         It is important to note that section 7.1.1 RFC 2578 allows for
         gaps and enumerate values to start with zero when indicated by
         the protocol."

     REFERENCE   "Section 5.3.7, 7.6.2.6 and Table 7 of
                      [IEEE 1588-2008]."
     SYNTAX   INTEGER {
                         atomicClock(16), -- 0x10
                         gps(32), -- 0x20
                         terrestrialRadio(48), -- 0x22
                         ptp(64), -- 0x40
                         ntp(80), -- 0x50
                         handSet(96), -- 0x60
                         other(144), -- 0x90
                         internalOscillator(160) -- 0xA0
                     }

PtpClockTxModeType ::= TEXTUAL-CONVENTION
     STATUS   current
     DESCRIPTION
         "Transmission mode.

         Unicast: Using unicast communication channel.
         Multicast: Using Multicast communication channel.
         multicast-mix: Using multicast-unicast communication channel"
     SYNTAX   INTEGER {
                         unicast(1),
                         multicast(2),
                         multicastmix(3)
                     }

PtpClockType ::= TEXTUAL-CONVENTION
     STATUS   current
     DESCRIPTION

            "The clock types as defined in the MIB module description."

      REFERENCE
          "Section 6.5.1 PTP device types of [IEEE 1588-2008]."
      SYNTAX   INTEGER {
                          ordinaryClock(1),
                          boundaryClock(2),
                          transparentClock(3),
                          boundaryNode(4)
                        }

ptpbaseMIBNotifs OBJECT IDENTIFIER
    ::= { ptpbaseMIB 0 }

ptpbaseMIBObjects OBJECT IDENTIFIER
    ::= { ptpbaseMIB 1 }

ptpbaseMIBConformance OBJECT IDENTIFIER
    ::= { ptpbaseMIB 2 }

ptpbaseMIBSystemInfo OBJECT IDENTIFIER
    ::= { ptpbaseMIBObjects 1 }

ptpbaseMIBClockInfo OBJECT IDENTIFIER
    ::= { ptpbaseMIBObjects 2 }

ptpbaseSystemTable OBJECT-TYPE
    SYNTAX   SEQUENCE OF PtpbaseSystemEntry
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "Table of count information about the PTP system for all
        domains."
    ::= { ptpbaseMIBSystemInfo 1 }

ptpbaseSystemEntry OBJECT-TYPE
    SYNTAX   PtpbaseSystemEntry
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "An entry in the table, containing count information about a
        single domain. New row entries are added when the PTP clock for
        this domain is configured, while the unconfiguration of the PTP
        clock removes it."
    INDEX   {
                        ptpDomainIndex,
                        ptpInstanceIndex
                      }

        ::= { ptpbaseSystemTable 1 }

PtpbaseSystemEntry ::= SEQUENCE {
        ptpDomainIndex   PtpClockDomainType,
        ptpInstanceIndex   PtpClockInstanceType,
        ptpDomainClockPortsTotal Gauge32
}

ptpDomainIndex OBJECT-TYPE
     SYNTAX   PtpClockDomainType
     MAX-ACCESS   not-accessible
     STATUS   current
     DESCRIPTION
         "This object specifies the domain number used to create a
         logical group of PTP devices. The Clock Domain is a logical
         group of clocks and devices that synchronize with each other
         using the PTP protocol.

         0   Default domain
         1   Alternate domain 1
         2   Alternate domain 2
         3   Alternate domain 3
         4 - 127   User-defined domains
         128 - 255 Reserved"
     ::= { ptpbaseSystemEntry 1 }

ptpInstanceIndex OBJECT-TYPE
     SYNTAX   PtpClockInstanceType
     MAX-ACCESS   not-accessible
     STATUS   current
     DESCRIPTION
         "This object specifies the instance of the Clock for this
         domain."
     ::= { ptpbaseSystemEntry 2 }

ptpDomainClockPortsTotal OBJECT-TYPE
     SYNTAX   Gauge32
     UNITS   "ptp ports"
     MAX-ACCESS   read-only
     STATUS   current
     DESCRIPTION
         "This object specifies the total number of clock ports
         configured within a domain in the system."
     ::= { ptpbaseSystemEntry 3 }

ptpbaseSystemDomainTable OBJECT-TYPE
     SYNTAX   SEQUENCE OF PtpbaseSystemDomainEntry

```
    MAX-ACCESS        not-accessible
    STATUS            current
    DESCRIPTION
        "Table of information about the PTP system for all clock modes
        -- ordinary, boundary or transparent."
    ::= { ptpbaseMIBSystemInfo 2 }

ptpbaseSystemDomainEntry OBJECT-TYPE
    SYNTAX            PtpbaseSystemDomainEntry
    MAX-ACCESS        not-accessible
    STATUS            current
    DESCRIPTION
        "An entry in the table, containing information about a single
        clock mode for the PTP system. A row entry gets added when PTP
        clocks are configured on the node."
    INDEX            { ptpbaseSystemDomainClockTypeIndex }
    ::= { ptpbaseSystemDomainTable 1 }

PtpbaseSystemDomainEntry ::= SEQUENCE {
        ptpbaseSystemDomainClockTypeIndex PtpClockType,
        ptpbaseSystemDomainTotals         Unsigned32
}

ptpbaseSystemDomainClockTypeIndex OBJECT-TYPE
    SYNTAX            PtpClockType
    MAX-ACCESS        not-accessible
    STATUS            current
    DESCRIPTION
        "This object specifies the clock type as defined in the
        Textual convention description."
    ::= { ptpbaseSystemDomainEntry 1 }

ptpbaseSystemDomainTotals OBJECT-TYPE
    SYNTAX            Unsigned32
    UNITS             "domains"
    MAX-ACCESS        read-only
    STATUS            current
    DESCRIPTION
        "This object specifies the total number of PTP domains for this
        particular clock type configured in this node."
    ::= { ptpbaseSystemDomainEntry 2 }



ptpbaseSystemProfile OBJECT-TYPE
    SYNTAX            PtpClockProfileType
    MAX-ACCESS        read-only
    STATUS            current
    DESCRIPTION
```

```
        "This object specifies the PTP Profile implemented on the
        system."
     REFERENCE        "Section 19.3 PTP profiles of [IEEE 1588-2008]"
     ::= { ptpbaseMIBSystemInfo 3 }

ptpbaseClockCurrentDSTable OBJECT-TYPE
     SYNTAX           SEQUENCE OF PtpbaseClockCurrentDSEntry
     MAX-ACCESS       not-accessible
     STATUS           current
     DESCRIPTION
        "Table of information about the PTP clock Current Datasets for
        all domains."
     ::= { ptpbaseMIBClockInfo 1 }

ptpbaseClockCurrentDSEntry OBJECT-TYPE
     SYNTAX           PtpbaseClockCurrentDSEntry
     MAX-ACCESS       not-accessible
     STATUS           current
     DESCRIPTION
        "An entry in the table, containing information about a single
        PTP clock Current Datasets for a domain."
     REFERENCE
        "[IEEE 1588-2008] Section 8.2.2 currentDS data set member
        specifications of [IEEE 1588-2008]"
     INDEX            {
                         ptpbaseClockCurrentDSDomainIndex,
                         ptpbaseClockCurrentDSClockTypeIndex,
                         ptpbaseClockCurrentDSInstanceIndex
                      }
     ::= { ptpbaseClockCurrentDSTable 1 }

PtpbaseClockCurrentDSEntry ::= SEQUENCE {
        ptpbaseClockCurrentDSDomainIndex        PtpClockDomainType,
        ptpbaseClockCurrentDSClockTypeIndex     PtpClockType,
        ptpbaseClockCurrentDSInstanceIndex      PtpClockInstanceType,
        ptpbaseClockCurrentDSStepsRemoved       Unsigned32,
        ptpbaseClockCurrentDSOffsetFromMaster   PtpClockTimeInterval,
        ptpbaseClockCurrentDSMeanPathDelay      PtpClockTimeInterval
}

ptpbaseClockCurrentDSDomainIndex OBJECT-TYPE
     SYNTAX           PtpClockDomainType
     MAX-ACCESS       not-accessible
     STATUS           current
     DESCRIPTION
        "This object specifies the domain number used to create a
logical
        group of PTP devices."
     ::= { ptpbaseClockCurrentDSEntry 1 }
```

ptpbaseClockCurrentDSClockTypeIndex OBJECT-TYPE
    SYNTAX   PtpClockType
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the clock type as defined in the
        Textual convention description."
    ::= { ptpbaseClockCurrentDSEntry 2 }

ptpbaseClockCurrentDSInstanceIndex OBJECT-TYPE
    SYNTAX   PtpClockInstanceType
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the instance of the clock for this clock
        type in the given domain."
    ::= { ptpbaseClockCurrentDSEntry 3 }

ptpbaseClockCurrentDSStepsRemoved OBJECT-TYPE
    SYNTAX   Unsigned32
    UNITS   "Steps"
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "The current clock dataset StepsRemoved value.

        This object specifies the distance measured by the number of
        Boundary clocks between the local clock and the Foreign master
        as indicated in the stepsRemoved field of Announce messages."
    REFERENCE
        "Section 8.2.2.2 stepsRemoved of [IEEE 1588-2008]"
    ::= { ptpbaseClockCurrentDSEntry 4 }

ptpbaseClockCurrentDSOffsetFromMaster OBJECT-TYPE
    SYNTAX   PtpClockTimeInterval
    UNITS   "Time Interval"
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the current clock dataset ClockOffset
        value. The value of the computation of the offset in time
        between a slave and a master clock."
    REFERENCE
        "Section 8.2.2.3 currentDS.offsetFromMaster of [IEEE 1588-2008]"
    ::= { ptpbaseClockCurrentDSEntry 5 }

ptpbaseClockCurrentDSMeanPathDelay OBJECT-TYPE
    SYNTAX   PtpClockTimeInterval

```
    UNITS              "Time Interval"
    MAX-ACCESS         read-only
    STATUS             current
    DESCRIPTION
        "This object specifies the current clock dataset
        MeanPathDelay value.

        The mean path delay between a pair of ports as measured by the
        delay request-response mechanism."
    REFERENCE
        "Section 8.2.2.4 currentDS.meanPathDelay of [IEEE 1588-2008]"
    ::= { ptpbaseClockCurrentDSEntry 6 }



ptpbaseClockParentDSTable OBJECT-TYPE
    SYNTAX             SEQUENCE OF PtpbaseClockParentDSEntry
    MAX-ACCESS         not-accessible
    STATUS             current
    DESCRIPTION
        "Table of information about the PTP clock Parent Datasets for
        all domains."
    ::= { ptpbaseMIBClockInfo 2 }

ptpbaseClockParentDSEntry OBJECT-TYPE
    SYNTAX             PtpbaseClockParentDSEntry
    MAX-ACCESS         not-accessible
    STATUS             current
    DESCRIPTION
        "An entry in the table, containing information about a single
        PTP clock Parent Datasets for a domain."
    REFERENCE
        "Section 8.2.3 parentDS data set member specifications of
        [IEEE 1588-2008]"
    INDEX              {
                            ptpbaseClockParentDSDomainIndex,
                            ptpbaseClockParentDSClockTypeIndex,
                            ptpbaseClockParentDSInstanceIndex
                       }
    ::= { ptpbaseClockParentDSTable 1 }

PtpbaseClockParentDSEntry ::= SEQUENCE {
    ptpbaseClockParentDSDomainIndex            PtpClockDomainType,
    ptpbaseClockParentDSClockTypeIndex         PtpClockType,
    ptpbaseClockParentDSInstanceIndex          PtpClockInstanceType,
    ptpbaseClockParentDSParentPortIdentity     OCTET STRING,
    ptpbaseClockParentDSParentStats            TruthValue,
    ptpbaseClockParentDSOffset                 PtpClockIntervalBase2,
    ptpbaseClockParentDSClockPhChRate          Integer32,
```

```
    ptpbaseClockParentDSGMClockIdentity        PtpClockIdentity,
    ptpbaseClockParentDSGMClockPriority1       Unsigned32,
    ptpbaseClockParentDSGMClockPriority2       Unsigned32,
    ptpbaseClockParentDSGMClockQualityClass    PtpClockQualityClassType,
    ptpbaseClockParentDSGMClockQualityAccuracy
PtpClockQualityAccuracyType,
    ptpbaseClockParentDSGMClockQualityOffset   Unsigned32
}

ptpbaseClockParentDSDomainIndex OBJECT-TYPE
    SYNTAX          PtpClockDomainType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the domain number used to create a
logical
        group of PTP devices."
    ::= { ptpbaseClockParentDSEntry 1 }

ptpbaseClockParentDSClockTypeIndex OBJECT-TYPE
    SYNTAX          PtpClockType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the clock type as defined in the
        Textual convention description."
    ::= { ptpbaseClockParentDSEntry 2 }

ptpbaseClockParentDSInstanceIndex OBJECT-TYPE
    SYNTAX          PtpClockInstanceType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the instance of the clock for this clock
        type in the given domain."
    ::= { ptpbaseClockParentDSEntry 3 }

ptpbaseClockParentDSParentPortIdentity OBJECT-TYPE
    SYNTAX          OCTET STRING(SIZE(1..256))
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the value of portIdentity of the port on
        the master that issues the Sync messages used in synchronizing
        this clock."
    REFERENCE
        "Section 8.2.3.2 parentDS.parentPortIdentity of
         [IEEE 1588-2008]"
    ::= { ptpbaseClockParentDSEntry 4 }
```

ptpbaseClockParentDSParentStats OBJECT-TYPE
    SYNTAX   TruthValue
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the Parent Dataset ParentStats value.

        This value indicates whether the values of ParentDSOffset
        and ParentDSClockPhChRate have been measured and are valid.
        A TRUE value shall indicate valid data."
    REFERENCE
        "Section 8.2.3.3 parentDS.parentStats of [IEEE 1588-2008]"
    ::= { ptpbaseClockParentDSEntry 5 }

ptpbaseClockParentDSOffset OBJECT-TYPE
    SYNTAX   PtpClockIntervalBase2 (-128..127)
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the Parent Dataset
        ParentOffsetScaledLogVariance value.

        This value is the variance of the parent clock's phase as
        measured by the local clock."
    REFERENCE
        "Section 8.2.3.4
        parentDS.observedParentOffsetScaledLogVariance
        [IEEE 1588-2008]"
    ::= { ptpbaseClockParentDSEntry 6 }

ptpbaseClockParentDSClockPhChRate OBJECT-TYPE
    SYNTAX   Integer32
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the clock's parent dataset
        ParentClockPhaseChangeRate value.

        This value is an estimate of the parent clock's phase change
        rate as measured by the slave clock."
    REFERENCE
        "Section 8.2.3.5
        parentDS.observedParentClockPhaseChangeRate of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockParentDSEntry 7 }

ptpbaseClockParentDSGMClockIdentity OBJECT-TYPE
    SYNTAX   PtpClockIdentity

```
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the parent dataset Grandmaster clock
        identity."
    REFERENCE
        "Section 8.2.3.6 parentDS.grandmasterIdentity of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockParentDSEntry 8 }

ptpbaseClockParentDSGMClockPriority1 OBJECT-TYPE
    SYNTAX          Unsigned32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the parent dataset Grandmaster clock
        priority1."
    REFERENCE
        "Section 8.2.3.8 parentDS.grandmasterPriority1 of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockParentDSEntry 9 }

ptpbaseClockParentDSGMClockPriority2 OBJECT-TYPE
    SYNTAX          Unsigned32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the parent dataset grandmaster clock
        priority2."
    REFERENCE
        "Section 8.2.3.9 parentDS.grandmasterPriority2 of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockParentDSEntry 10 }

ptpbaseClockParentDSGMClockQualityClass OBJECT-TYPE
    SYNTAX          PtpClockQualityClassType
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the parent dataset grandmaster clock
        quality class."
    REFERENCE
        "Section 8.2.3.7 parentDS.grandmasterClockQuality of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockParentDSEntry 11 }

ptpbaseClockParentDSGMClockQualityAccuracy OBJECT-TYPE
    SYNTAX          PtpClockQualityAccuracyType
    MAX-ACCESS      read-only
```

      STATUS   current
      DESCRIPTION
          "This object specifies the parent dataset grandmaster clock
          quality accuracy."
      REFERENCE
          "Section 8.2.3.7 parentDS.grandmasterClockQuality of
          [IEEE 1588-2008]"
      ::= { ptpbaseClockParentDSEntry 12 }

ptpbaseClockParentDSGMClockQualityOffset OBJECT-TYPE
      SYNTAX   Unsigned32
      MAX-ACCESS   read-only
      STATUS   current
      DESCRIPTION
          "This object specifies the parent dataset grandmaster clock
          quality offset."
      REFERENCE
          "Section 8.2.3.7 parentDS.grandmasterClockQuality of
          [IEEE 1588-2008]"
      ::= { ptpbaseClockParentDSEntry 13 }

ptpbaseClockDefaultDSTable OBJECT-TYPE
      SYNTAX   SEQUENCE OF PtpbaseClockDefaultDSEntry
      MAX-ACCESS   not-accessible
      STATUS   current
      DESCRIPTION
          "Table of information about the PTP clock Default Datasets for
          all domains."
      ::= { ptpbaseMIBClockInfo 3 }

ptpbaseClockDefaultDSEntry OBJECT-TYPE
      SYNTAX   PtpbaseClockDefaultDSEntry
      MAX-ACCESS   not-accessible
      STATUS   current
      DESCRIPTION
          "An entry in the table, containing information about a single
          PTP clock Default Datasets for a domain."
      INDEX   {
                          ptpbaseClockDefaultDSDomainIndex,
                          ptpbaseClockDefaultDSClockTypeIndex,
                          ptpbaseClockDefaultDSInstanceIndex
                      }
      ::= { ptpbaseClockDefaultDSTable 1 }

PtpbaseClockDefaultDSEntry ::= SEQUENCE {
        ptpbaseClockDefaultDSDomainIndex   PtpClockDomainType,
        ptpbaseClockDefaultDSClockTypeIndex PtpClockType,

```
        ptpbaseClockDefaultDSInstanceIndex     PtpClockInstanceType,
        ptpbaseClockDefaultDSTwoStepFlag       TruthValue,
        ptpbaseClockDefaultDSClockIdentity     PtpClockIdentity,
        ptpbaseClockDefaultDSPriority1         Unsigned32,
        ptpbaseClockDefaultDSPriority2         Unsigned32,
        ptpbaseClockDefaultDSSlaveOnly         TruthValue,
        ptpbaseClockDefaultDSQualityClass      PtpClockQualityClassType,
        ptpbaseClockDefaultDSQualityAccuracy
PtpClockQualityAccuracyType,
        ptpbaseClockDefaultDSQualityOffset     Integer32
}

ptpbaseClockDefaultDSDomainIndex OBJECT-TYPE
    SYNTAX          PtpClockDomainType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the domain number used to create a
logical
        group of PTP devices."
    ::= { ptpbaseClockDefaultDSEntry 1 }

ptpbaseClockDefaultDSClockTypeIndex OBJECT-TYPE
    SYNTAX          PtpClockType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the clock type as defined in the
        Textual convention description."
    ::= { ptpbaseClockDefaultDSEntry 2 }

ptpbaseClockDefaultDSInstanceIndex OBJECT-TYPE
    SYNTAX          PtpClockInstanceType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the instance of the clock for this clock
        type in the given domain."
    ::= { ptpbaseClockDefaultDSEntry 3 }

ptpbaseClockDefaultDSTwoStepFlag OBJECT-TYPE
    SYNTAX          TruthValue
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies whether the Two Step process is used."
    ::= { ptpbaseClockDefaultDSEntry 4 }

ptpbaseClockDefaultDSClockIdentity OBJECT-TYPE
```

```
    SYNTAX          PtpClockIdentity
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the default Datasets clock identity."
    ::= { ptpbaseClockDefaultDSEntry 5 }

ptpbaseClockDefaultDSPriority1 OBJECT-TYPE
    SYNTAX          Unsigned32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the default Datasets clock Priority1."
    ::= { ptpbaseClockDefaultDSEntry 6 }

ptpbaseClockDefaultDSPriority2 OBJECT-TYPE
    SYNTAX          Unsigned32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the default Datasets clock Priority2."
    ::= { ptpbaseClockDefaultDSEntry 7 }

ptpbaseClockDefaultDSSlaveOnly OBJECT-TYPE
    SYNTAX          TruthValue
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "Whether the SlaveOnly flag is set."
    ::= { ptpbaseClockDefaultDSEntry 8 }

ptpbaseClockDefaultDSQualityClass OBJECT-TYPE
    SYNTAX          PtpClockQualityClassType
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the default dataset Quality Class."
    ::= { ptpbaseClockDefaultDSEntry 9 }

ptpbaseClockDefaultDSQualityAccuracy OBJECT-TYPE
    SYNTAX          PtpClockQualityAccuracyType
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the default dataset Quality Accuracy."
    ::= { ptpbaseClockDefaultDSEntry 10 }

ptpbaseClockDefaultDSQualityOffset OBJECT-TYPE
    SYNTAX          Integer32
```

```
    MAX-ACCESS       read-only
    STATUS           current
    DESCRIPTION
        "This object specifies the default dataset Quality offset."
    ::= { ptpbaseClockDefaultDSEntry 11 }




ptpbaseClockRunningTable OBJECT-TYPE
    SYNTAX           SEQUENCE OF PtpbaseClockRunningEntry
    MAX-ACCESS       not-accessible
    STATUS           current
    DESCRIPTION
        "Table of information about the PTP clock Running Datasets for
        all domains."
    ::= { ptpbaseMIBClockInfo 4 }

ptpbaseClockRunningEntry OBJECT-TYPE
    SYNTAX           PtpbaseClockRunningEntry
    MAX-ACCESS       not-accessible
    STATUS           current
    DESCRIPTION
        "An entry in the table, containing information about a single
        PTP clock running Datasets for a domain."
    INDEX            {
                        ptpbaseClockRunningDomainIndex,
                        ptpbaseClockRunningClockTypeIndex,
                        ptpbaseClockRunningInstanceIndex
                     }
    ::= { ptpbaseClockRunningTable 1 }

PtpbaseClockRunningEntry ::= SEQUENCE {
        ptpbaseClockRunningDomainIndex      PtpClockDomainType,
        ptpbaseClockRunningClockTypeIndex   PtpClockType,
        ptpbaseClockRunningInstanceIndex    PtpClockInstanceType,
        ptpbaseClockRunningState            PtpClockStateType,
        ptpbaseClockRunningPacketsSent      Counter64,
        ptpbaseClockRunningPacketsReceived  Counter64
}

ptpbaseClockRunningDomainIndex OBJECT-TYPE
    SYNTAX           PtpClockDomainType
    MAX-ACCESS       not-accessible
    STATUS           current
    DESCRIPTION
        "This object specifies the domain number used to create a
        Logical group of PTP devices."
    ::= { ptpbaseClockRunningEntry 1 }
```

ptpbaseClockRunningClockTypeIndex OBJECT-TYPE
    SYNTAX   PtpClockType
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the clock type as defined in the
        Textual convention description."
    ::= { ptpbaseClockRunningEntry 2 }

ptpbaseClockRunningInstanceIndex OBJECT-TYPE
    SYNTAX   PtpClockInstanceType
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the instance of the clock for this clock
        type in the given domain."
    ::= { ptpbaseClockRunningEntry 3 }

ptpbaseClockRunningState OBJECT-TYPE
    SYNTAX   PtpClockStateType
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the Clock state returned by a PTP
engine."

    ::= { ptpbaseClockRunningEntry 4 }

ptpbaseClockRunningPacketsSent OBJECT-TYPE
    SYNTAX   Counter64
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the total number of all unicast and
        multicast packets that have been sent out for this clock in this
        domain for this type. These counters are discontinuous."
    ::= { ptpbaseClockRunningEntry 5 }

ptpbaseClockRunningPacketsReceived OBJECT-TYPE
    SYNTAX   Counter64
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the total number of all unicast and
        multicast packets that have been received for this clock in this
        domain for this type. These counters are discontinuous."
    ::= { ptpbaseClockRunningEntry 6 }

ptpbaseClockTimePropertiesDSTable OBJECT-TYPE
    SYNTAX   SEQUENCE OF PtpbaseClockTimePropertiesDSEntry
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "Table of information about the PTP clock time properties
        datasets for all domains."
    ::= { ptpbaseMIBClockInfo 5 }

ptpbaseClockTimePropertiesDSEntry OBJECT-TYPE
    SYNTAX   PtpbaseClockTimePropertiesDSEntry
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "An entry in the table, containing information about a single
        PTP clock timeproperties Datasets for a domain."
    REFERENCE
        "Section 8.2.4 timePropertiesDS data set member specifications
        of [IEEE 1588-2008]"
    INDEX   {
                        ptpbaseClockTimePropertiesDSDomainIndex,
                        ptpbaseClockTimePropertiesDSClockTypeIndex,
                        ptpbaseClockTimePropertiesDSInstanceIndex
                      }
    ::= { ptpbaseClockTimePropertiesDSTable 1 }

PtpbaseClockTimePropertiesDSEntry ::= SEQUENCE {
  ptpbaseClockTimePropertiesDSDomainIndex   PtpClockDomainType,
  ptpbaseClockTimePropertiesDSClockTypeIndex   PtpClockType,
  ptpbaseClockTimePropertiesDSInstanceIndex
PtpClockInstanceType,
  ptpbaseClockTimePropertiesDSCurrentUTCOffsetValid TruthValue,
  ptpbaseClockTimePropertiesDSCurrentUTCOffset   Integer32,
  ptpbaseClockTimePropertiesDSLeap59   TruthValue,
  ptpbaseClockTimePropertiesDSLeap61   TruthValue,
  ptpbaseClockTimePropertiesDSTimeTraceable   TruthValue,
  ptpbaseClockTimePropertiesDSFreqTraceable   TruthValue,
  ptpbaseClockTimePropertiesDSPTPTimescale   TruthValue,
  ptpbaseClockTimePropertiesDSSource
PtpClockTimeSourceType
}

ptpbaseClockTimePropertiesDSDomainIndex OBJECT-TYPE
    SYNTAX   PtpClockDomainType
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION

        "This object specifies the domain number used to create a
logical
        group of PTP devices."
    ::= { ptpbaseClockTimePropertiesDSEntry 1 }

ptpbaseClockTimePropertiesDSClockTypeIndex OBJECT-TYPE
    SYNTAX   PtpClockType
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the clock type as defined in the
        Textual convention description."
    ::= { ptpbaseClockTimePropertiesDSEntry 2 }

ptpbaseClockTimePropertiesDSInstanceIndex OBJECT-TYPE
    SYNTAX   PtpClockInstanceType
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the instance of the clock for this clock
        type in the given domain."
    ::= { ptpbaseClockTimePropertiesDSEntry 3 }

ptpbaseClockTimePropertiesDSCurrentUTCOffsetValid OBJECT-TYPE
    SYNTAX   TruthValue
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the timeproperties dataset value of
        whether the current UTC offset is valid."
    REFERENCE
        "Section 8.2.4.2 timePropertiesDS.currentUtcOffset of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockTimePropertiesDSEntry 4 }

ptpbaseClockTimePropertiesDSCurrentUTCOffset OBJECT-TYPE
    SYNTAX   Integer32
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the timeproperties dataset value of
        the current UTC offset.

        In PTP systems whose epoch is the PTP epoch, the value of
        timePropertiesDS.currentUtcOffset is the offset
        between TAI and UTC; otherwise the value has no meaning. The
        value shall be in units of seconds."
    REFERENCE
        "Section 8.2.4.3 timePropertiesDS.currentUtcOffsetValid of

        [IEEE 1588-2008]"
    ::= { ptpbaseClockTimePropertiesDSEntry 5 }

ptpbaseClockTimePropertiesDSLeap59 OBJECT-TYPE
    SYNTAX   TruthValue
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the Leap59 value in the clock Current
        Dataset."
    REFERENCE
        "Section 8.2.4.4 timePropertiesDS.leap59 of [IEEE 1588-2008]"
    ::= { ptpbaseClockTimePropertiesDSEntry 6 }

ptpbaseClockTimePropertiesDSLeap61 OBJECT-TYPE
    SYNTAX   TruthValue
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the Leap61 value in the clock Current
        Dataset."
    REFERENCE
        "Section 8.2.4.5 timePropertiesDS.leap61 of [IEEE 1588-2008]"
 ::= { ptpbaseClockTimePropertiesDSEntry 7 }

ptpbaseClockTimePropertiesDSTimeTraceable OBJECT-TYPE
    SYNTAX   TruthValue
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the Time Traceable value in the clock
        Current Dataset."
    REFERENCE
        "Section 8.2.4.6 timePropertiesDS.timeTraceable of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockTimePropertiesDSEntry 8 }

ptpbaseClockTimePropertiesDSFreqTraceable OBJECT-TYPE
    SYNTAX   TruthValue
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the Frequency Traceable value in the
        clock Current Dataset."
    REFERENCE
        "Section 8.2.4.7 timePropertiesDS.frequencyTraceable of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockTimePropertiesDSEntry 9 }

ptpbaseClockTimePropertiesDSPTPTimescale OBJECT-TYPE
    SYNTAX   TruthValue
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the PTP Timescale value in the clock
        Current Dataset."
    REFERENCE
        "Section 8.2.4.8 timePropertiesDS.ptpTimescale of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockTimePropertiesDSEntry 10 }

ptpbaseClockTimePropertiesDSSource OBJECT-TYPE
    SYNTAX   PtpClockTimeSourceType
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the Timesource value in the clock Current
        Dataset."
    REFERENCE
        "Section 8.2.4.9 timePropertiesDS.timeSource of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockTimePropertiesDSEntry 11 }

ptpbaseClockTransDefaultDSTable OBJECT-TYPE
    SYNTAX   SEQUENCE OF PtpbaseClockTransDefaultDSEntry
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "Table of information about the PTP Transparent clock Default
        Datasets for all domains."
    ::= { ptpbaseMIBClockInfo 6 }

ptpbaseClockTransDefaultDSEntry OBJECT-TYPE
    SYNTAX   PtpbaseClockTransDefaultDSEntry
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "An entry in the table, containing information about a single
        PTP Transparent clock Default Datasets for a domain."
    REFERENCE
        "Section 8.3.2 transparentClockDefaultDS data set member
        specifications of [IEEE 1588-2008]"
    INDEX   {
                        ptpbaseClockTransDefaultDSDomainIndex,
                        ptpbaseClockTransDefaultDSInstanceIndex
                    }

    ::= { ptpbaseClockTransDefaultDSTable 1 }

PtpbaseClockTransDefaultDSEntry ::= SEQUENCE {
        ptpbaseClockTransDefaultDSDomainIndex   PtpClockDomainType,
        ptpbaseClockTransDefaultDSInstanceIndex PtpClockInstanceType,
        ptpbaseClockTransDefaultDSClockIdentity PtpClockIdentity,
        ptpbaseClockTransDefaultDSNumOfPorts   Counter32,
        ptpbaseClockTransDefaultDSDelay   PtpClockMechanismType,
        ptpbaseClockTransDefaultDSPrimaryDomain PtpClockDomainType
}

ptpbaseClockTransDefaultDSDomainIndex OBJECT-TYPE
    SYNTAX   PtpClockDomainType
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the domain number used to create a
logical
        group of PTP devices."
    ::= { ptpbaseClockTransDefaultDSEntry 1 }

ptpbaseClockTransDefaultDSInstanceIndex OBJECT-TYPE
    SYNTAX   PtpClockInstanceType
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the instance of the clock for this clock
        type in the given domain."
    ::= { ptpbaseClockTransDefaultDSEntry 2 }

ptpbaseClockTransDefaultDSClockIdentity OBJECT-TYPE
    SYNTAX   PtpClockIdentity
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the value of the clockIdentity attribute
        of the local clock."
    REFERENCE
       "Section 8.3.2.2.1 transparentClockDefaultDS.clockIdentity of
       [IEEE 1588-2008]"
    ::= { ptpbaseClockTransDefaultDSEntry 3 }

ptpbaseClockTransDefaultDSNumOfPorts OBJECT-TYPE
    SYNTAX   Counter32
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the number of PTP ports of the device.
         These counters are discontinuous."

```
     REFERENCE
         "Section 8.3.2.2.2 transparentClockDefaultDS.numberPorts of
         [IEEE 1588-2008]"
     ::= { ptpbaseClockTransDefaultDSEntry 4 }

ptpbaseClockTransDefaultDSDelay OBJECT-TYPE
     SYNTAX          PtpClockMechanismType
     MAX-ACCESS      read-only
     STATUS          current
     DESCRIPTION
         "This object, if the transparent clock is an end-to-end
         transparent clock, has the value of E2E; if the
         transparent clock is a peer-to-peer transparent clock, the
         value
         shall be P2P."
     REFERENCE
         "Section 8.3.2.3.1 transparentClockDefaultDS.delayMechanism of
         [IEEE 1588-2008]"
     ::= { ptpbaseClockTransDefaultDSEntry 5 }

ptpbaseClockTransDefaultDSPrimaryDomain OBJECT-TYPE
     SYNTAX          PtpClockDomainType
     MAX-ACCESS      read-only
     STATUS          current
     DESCRIPTION
         "This object specifies the value of the primary syntonization
         domain. The initialization value shall be 0."
     REFERENCE
         "Section 8.3.2.3.2 transparentClockDefaultDS.primaryDomain of
         [IEEE 1588-2008]"
     ::= { ptpbaseClockTransDefaultDSEntry 6 }



ptpbaseClockPortTable OBJECT-TYPE
     SYNTAX          SEQUENCE OF PtpbaseClockPortEntry
     MAX-ACCESS      not-accessible
     STATUS          current
     DESCRIPTION
         "Table of information about the clock ports for a particular
         domain."
     ::= { ptpbaseMIBClockInfo 7 }

ptpbaseClockPortEntry OBJECT-TYPE
     SYNTAX          PtpbaseClockPortEntry
     MAX-ACCESS      not-accessible
     STATUS          current
     DESCRIPTION
         "An entry in the table, containing information about a single
```

```
        clock port."
    INDEX           {
                        ptpbaseClockPortDomainIndex,
                        ptpbaseClockPortClockTypeIndex,
                        ptpbaseClockPortClockInstanceIndex,
                        ptpbaseClockPortTablePortNumberIndex
                    }
    ::= { ptpbaseClockPortTable 1 }

PtpbaseClockPortEntry ::= SEQUENCE {
        ptpbaseClockPortDomainIndex           PtpClockDomainType,
        ptpbaseClockPortClockTypeIndex        PtpClockType,
        ptpbaseClockPortClockInstanceIndex    PtpClockInstanceType,
        ptpbaseClockPortTablePortNumberIndex  PtpClockPortNumber,
        ptpbaseClockPortName                  DisplayString,
        ptpbaseClockPortRole                  PtpClockRoleType,
        ptpbaseClockPortSyncTwoStep           TruthValue,
        ptpbaseClockPortCurrentPeerAddressType AutonomousType,
        ptpbaseClockPortCurrentPeerAddress
PtpClockPortTransportTypeAddress,
        ptpbaseClockPortNumOfAssociatedPorts  Gauge32
}

ptpbaseClockPortDomainIndex OBJECT-TYPE
    SYNTAX          PtpClockDomainType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the domain number used to create a
        logical group of PTP devices."
    ::= { ptpbaseClockPortEntry 1 }

ptpbaseClockPortClockTypeIndex OBJECT-TYPE
    SYNTAX          PtpClockType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the clock type as defined in the
        Textual convention description."
    ::= { ptpbaseClockPortEntry 2 }

ptpbaseClockPortClockInstanceIndex OBJECT-TYPE
    SYNTAX          PtpClockInstanceType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the instance of the clock for this clock
        type in the given domain."
    ::= { ptpbaseClockPortEntry 3 }
```

ptpbaseClockPortTablePortNumberIndex OBJECT-TYPE
    SYNTAX   PtpClockPortNumber
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the PTP Portnumber for this port."
    ::= { ptpbaseClockPortEntry 4 }

ptpbaseClockPortName OBJECT-TYPE
    SYNTAX   DisplayString (SIZE (1..64))
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the PTP clock port name configured on the
        node."
    ::= { ptpbaseClockPortEntry 5 }

ptpbaseClockPortRole OBJECT-TYPE
    SYNTAX   PtpClockRoleType
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object describes the current role (slave/master) of the
        port."
    ::= { ptpbaseClockPortEntry 6 }

ptpbaseClockPortSyncTwoStep OBJECT-TYPE
    SYNTAX   TruthValue
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies that two-step clock operation between
        the PTP master and slave device is enabled."
    ::= { ptpbaseClockPortEntry 7 }

ptpbaseClockPortCurrentPeerAddressType OBJECT-TYPE
    SYNTAX   AutonomousType
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the current peer's network address type
         used for PTP communication."
    ::= { ptpbaseClockPortEntry 8 }

ptpbaseClockPortCurrentPeerAddress OBJECT-TYPE
    SYNTAX   PtpClockPortTransportTypeAddress
    MAX-ACCESS   read-only
    STATUS   current

      DESCRIPTION
          "This object specifies the current peer's network address used
          for PTP communication."
      ::= { ptpbaseClockPortEntry 9 }

ptpbaseClockPortNumOfAssociatedPorts OBJECT-TYPE
      SYNTAX   Gauge32
      MAX-ACCESS   read-only
      STATUS   current
      DESCRIPTION
          "This object specifies -
          For a master port - the number of PTP slave sessions (peers)
          associated with this PTP port.
          For a slave port - the number of masters available to this slave
          port (might or might not be peered)."
      ::= { ptpbaseClockPortEntry 10 }

ptpbaseClockPortDSTable OBJECT-TYPE
      SYNTAX   SEQUENCE OF PtpbaseClockPortDSEntry
      MAX-ACCESS   not-accessible
      STATUS   current
      DESCRIPTION
          "Table of information about the clock ports dataset for a
          particular domain."
      ::= { ptpbaseMIBClockInfo 8 }

ptpbaseClockPortDSEntry OBJECT-TYPE
      SYNTAX   PtpbaseClockPortDSEntry
      MAX-ACCESS   not-accessible
      STATUS   current
      DESCRIPTION
          "An entry in the table, containing port dataset information for
          a single clock port."
      INDEX   {
                          ptpbaseClockPortDSDomainIndex,
                          ptpbaseClockPortDSClockTypeIndex,
                          ptpbaseClockPortDSClockInstanceIndex,
                          ptpbaseClockPortDSPortNumberIndex
                      }
      ::= { ptpbaseClockPortDSTable 1 }

PtpbaseClockPortDSEntry ::= SEQUENCE {
          ptpbaseClockPortDSDomainIndex   PtpClockDomainType,
          ptpbaseClockPortDSClockTypeIndex   PtpClockType,
          ptpbaseClockPortDSClockInstanceIndex PtpClockInstanceType,
          ptpbaseClockPortDSPortNumberIndex   PtpClockPortNumber,
          ptpbaseClockPortDSName   DisplayString,

```
        ptpbaseClockPortDSPortIdentity        OCTET STRING,
        ptpbaseClockPortDSlogAnnouncementInterval PtpClockIntervalBase2,
        ptpbaseClockPortDSAnnounceRctTimeout   Integer32,
        ptpbaseClockPortDSlogSyncInterval      PtpClockIntervalBase2,
        ptpbaseClockPortDSMinDelayReqInterval  Integer32,
        ptpbaseClockPortDSPeerDelayReqInterval Integer32,
        ptpbaseClockPortDSDelayMech            PtpClockMechanismType,
        ptpbaseClockPortDSPeerMeanPathDelay    PtpClockTimeInterval,
        ptpbaseClockPortDSGrantDuration        Unsigned32,
        ptpbaseClockPortDSPTPVersion           Unsigned32
}

ptpbaseClockPortDSDomainIndex OBJECT-TYPE
    SYNTAX          PtpClockDomainType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the domain number used to create a
        logical group of PTP devices."
    ::= { ptpbaseClockPortDSEntry 1 }

ptpbaseClockPortDSClockTypeIndex OBJECT-TYPE
    SYNTAX          PtpClockType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the clock type as defined in the
        Textual convention description."
    ::= { ptpbaseClockPortDSEntry 2 }

ptpbaseClockPortDSClockInstanceIndex OBJECT-TYPE
    SYNTAX          PtpClockInstanceType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the instance of the clock for this clock
        type in the given domain."
    ::= { ptpbaseClockPortDSEntry 3 }

ptpbaseClockPortDSPortNumberIndex OBJECT-TYPE
    SYNTAX          PtpClockPortNumber
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the PTP portnumber associated with this
        PTP port."
    ::= { ptpbaseClockPortDSEntry 4 }

ptpbaseClockPortDSName OBJECT-TYPE
```

```
    SYNTAX          DisplayString (SIZE  (1..64))
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the PTP clock port dataset name."
    ::= { ptpbaseClockPortDSEntry 5 }

ptpbaseClockPortDSPortIdentity OBJECT-TYPE
    SYNTAX          OCTET STRING(SIZE(1..256))
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the PTP clock port Identity."
    ::= { ptpbaseClockPortDSEntry 6 }

ptpbaseClockPortDSlogAnnouncementInterval OBJECT-TYPE
    SYNTAX          PtpClockIntervalBase2
    UNITS           "Time Interval"
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the Announce message transmission
        interval associated with this clock port."
    ::= { ptpbaseClockPortDSEntry 7 }

ptpbaseClockPortDSAnnounceRctTimeout OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the Announce receipt timeout associated
        with this clock port."
    ::= { ptpbaseClockPortDSEntry 8 }

ptpbaseClockPortDSlogSyncInterval OBJECT-TYPE
    SYNTAX          PtpClockIntervalBase2
    UNITS           "Time Interval"
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the Sync message transmission interval."
    ::= { ptpbaseClockPortDSEntry 9 }

ptpbaseClockPortDSMinDelayReqInterval OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the Delay_Req message transmission
```

```
        interval."
    ::= { ptpbaseClockPortDSEntry 10 }

ptpbaseClockPortDSPeerDelayReqInterval OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the Pdelay_Req message transmission
        interval."
    ::= { ptpbaseClockPortDSEntry 11 }

ptpbaseClockPortDSDelayMech OBJECT-TYPE
    SYNTAX          PtpClockMechanismType
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the delay mechanism used. If the clock
        is an end-to-end clock, the value of the is e2e, else if the
        clock is a peer to-peer clock, the value shall be p2p."
    ::= { ptpbaseClockPortDSEntry 12 }

ptpbaseClockPortDSPeerMeanPathDelay OBJECT-TYPE
    SYNTAX          PtpClockTimeInterval
    UNITS           "Time Interval"
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the peer meanPathDelay."
    ::= { ptpbaseClockPortDSEntry 13 }

ptpbaseClockPortDSGrantDuration OBJECT-TYPE
    SYNTAX          Unsigned32
    UNITS           "seconds"
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the grant duration allocated by the
        master."
    ::= { ptpbaseClockPortDSEntry 14 }

ptpbaseClockPortDSPTPVersion OBJECT-TYPE
    SYNTAX          Unsigned32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the PTP version being used."
    ::= { ptpbaseClockPortDSEntry 15 }
```

```
ptpbaseClockPortRunningTable OBJECT-TYPE
    SYNTAX            SEQUENCE OF PtpbaseClockPortRunningEntry
    MAX-ACCESS        not-accessible
    STATUS            current
    DESCRIPTION
        "Table of information about the clock ports running datasets for
        a particular domain."
    ::= { ptpbaseMIBClockInfo 9 }

ptpbaseClockPortRunningEntry OBJECT-TYPE
    SYNTAX            PtpbaseClockPortRunningEntry
    MAX-ACCESS        not-accessible
    STATUS            current
    DESCRIPTION
        "An entry in the table, containing running dataset information
        about a single clock port."
    INDEX             {
                        ptpbaseClockPortRunningDomainIndex,
                        ptpbaseClockPortRunningClockTypeIndex,
                        ptpbaseClockPortRunningClockInstanceIndex,
                        ptpbaseClockPortRunningPortNumberIndex
                      }
    ::= { ptpbaseClockPortRunningTable 1 }

PtpbaseClockPortRunningEntry ::= SEQUENCE {
        ptpbaseClockPortRunningDomainIndex        PtpClockDomainType,
        ptpbaseClockPortRunningClockTypeIndex     PtpClockType,
        ptpbaseClockPortRunningClockInstanceIndex PtpClockInstanceType,
        ptpbaseClockPortRunningPortNumberIndex    PtpClockPortNumber,
        ptpbaseClockPortRunningName               DisplayString,
        ptpbaseClockPortRunningState              PtpClockPortState,
        ptpbaseClockPortRunningRole               PtpClockRoleType,
        ptpbaseClockPortRunningInterfaceIndex     InterfaceIndexOrZero,
        ptpbaseClockPortRunningTransport          AutonomousType,
        ptpbaseClockPortRunningEncapsulationType  AutonomousType,
        ptpbaseClockPortRunningTxMode             PtpClockTxModeType,
        ptpbaseClockPortRunningRxMode             PtpClockTxModeType,
        ptpbaseClockPortRunningPacketsReceived    Counter64,
        ptpbaseClockPortRunningPacketsSent        Counter64
}

ptpbaseClockPortRunningDomainIndex OBJECT-TYPE
    SYNTAX            PtpClockDomainType
    MAX-ACCESS        not-accessible
    STATUS            current
    DESCRIPTION
        "This object specifies the domain number used to create a
```

          logical group of PTP devices."
     ::= { ptpbaseClockPortRunningEntry 1 }

ptpbaseClockPortRunningClockTypeIndex OBJECT-TYPE
     SYNTAX   PtpClockType
     MAX-ACCESS   not-accessible
     STATUS   current
     DESCRIPTION
         "This object specifies the clock type as defined in the
         Textual convention description."
     ::= { ptpbaseClockPortRunningEntry 2 }

ptpbaseClockPortRunningClockInstanceIndex OBJECT-TYPE
     SYNTAX   PtpClockInstanceType
     MAX-ACCESS   not-accessible
     STATUS   current
     DESCRIPTION
         "This object specifies the instance of the clock for this clock
         type in the given domain."
     ::= { ptpbaseClockPortRunningEntry 3 }

ptpbaseClockPortRunningPortNumberIndex OBJECT-TYPE
     SYNTAX   PtpClockPortNumber
     MAX-ACCESS   not-accessible
     STATUS   current
     DESCRIPTION
         "This object specifies the PTP portnumber associated with this
         clock port."
     ::= { ptpbaseClockPortRunningEntry 4 }

ptpbaseClockPortRunningName OBJECT-TYPE
     SYNTAX   DisplayString (SIZE (1..64))
     MAX-ACCESS   read-only
     STATUS   current
     DESCRIPTION
         "This object specifies the PTP clock port name."
     ::= { ptpbaseClockPortRunningEntry 5 }

ptpbaseClockPortRunningState OBJECT-TYPE
     SYNTAX   PtpClockPortState
     MAX-ACCESS   read-only
     STATUS   current
     DESCRIPTION
         "This object specifies the port state returned by PTP engine.

         initializing
         faulty
         disabled
         listening

```
      preMaster
      master
      passive
      uncalibrated
      slave          "
  ::= { ptpbaseClockPortRunningEntry 6 }
```

ptpbaseClockPortRunningRole OBJECT-TYPE
    SYNTAX   PtpClockRoleType
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the Clock Role."
    ::= { ptpbaseClockPortRunningEntry 7 }

ptpbaseClockPortRunningInterfaceIndex OBJECT-TYPE
    SYNTAX   InterfaceIndexOrZero
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the interface on the node being used by
        the PTP Clock for PTP communication."
    ::= { ptpbaseClockPortRunningEntry 8 }

ptpbaseClockPortRunningTransport OBJECT-TYPE
    SYNTAX   AutonomousType
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the transport protocol being used for PTP
        communication (the mapping used)."
    ::= { ptpbaseClockPortRunningEntry 9 }

ptpbaseClockPortRunningEncapsulationType OBJECT-TYPE
    SYNTAX   AutonomousType
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the type of encapsulation if the
        interface is adding extra layers (e.g., VLAN, Pseudowire
        encapsulation...) for the PTP messages."
    ::= { ptpbaseClockPortRunningEntry 10 }

ptpbaseClockPortRunningTxMode OBJECT-TYPE
    SYNTAX   PtpClockTxModeType
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the clock transmission mode as

```

        unicast:        Using unicast communication channel.
        multicast:      Using Multicast communication channel.
        multicast-mix: Using multicast-unicast communication channel"
    ::= { ptpbaseClockPortRunningEntry 11 }


ptpbaseClockPortRunningRxMode OBJECT-TYPE
    SYNTAX          PtpClockTxModeType
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the clock receive mode as

        unicast:        Using unicast communication channel.
        multicast:      Using Multicast communication channel.
        multicast-mix: Using multicast-unicast communication channel"
    ::= { ptpbaseClockPortRunningEntry 12 }


ptpbaseClockPortRunningPacketsReceived OBJECT-TYPE
    SYNTAX          Counter64
    UNITS           "packets"
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the packets received on the clock port
        (cumulative). These counters are discontinuous."
    ::= { ptpbaseClockPortRunningEntry 13 }


ptpbaseClockPortRunningPacketsSent OBJECT-TYPE
    SYNTAX          Counter64
    UNITS           "packets"
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object specifies the packets sent on the clock port
        (cumulative). These counters are discontinuous."
    ::= { ptpbaseClockPortRunningEntry 14 }



ptpbaseClockPortTransDSTable OBJECT-TYPE
    SYNTAX          SEQUENCE OF PtpbaseClockPortTransDSEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "Table of information about the Transparent clock ports running
        dataset for a particular domain."
    ::= { ptpbaseMIBClockInfo 10 }

ptpbaseClockPortTransDSEntry OBJECT-TYPE
    SYNTAX          PtpbaseClockPortTransDSEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "An entry in the table, containing clock port Transparent
        dataset information about a single clock port"
    INDEX           {
                        ptpbaseClockPortTransDSDomainIndex,
                        ptpbaseClockPortTransDSInstanceIndex,
                        ptpbaseClockPortTransDSPortNumberIndex
                    }
    ::= { ptpbaseClockPortTransDSTable 1 }

PtpbaseClockPortTransDSEntry ::= SEQUENCE {
        ptpbaseClockPortTransDSDomainIndex      PtpClockDomainType,
        ptpbaseClockPortTransDSInstanceIndex    PtpClockInstanceType,
        ptpbaseClockPortTransDSPortNumberIndex  PtpClockPortNumber,
        ptpbaseClockPortTransDSPortIdentity     PtpClockIdentity,
        ptpbaseClockPortTransDSlogMinPdelayReqInt PtpClockIntervalBase2,
        ptpbaseClockPortTransDSFaultyFlag       TruthValue,
        ptpbaseClockPortTransDSPeerMeanPathDelay PtpClockTimeInterval
}

ptpbaseClockPortTransDSDomainIndex OBJECT-TYPE
    SYNTAX          PtpClockDomainType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the domain number used to create a
        Logical group of PTP devices."
    ::= { ptpbaseClockPortTransDSEntry 1 }

ptpbaseClockPortTransDSInstanceIndex OBJECT-TYPE
    SYNTAX          PtpClockInstanceType
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the instance of the clock for this clock
        type in the given domain."
    ::= { ptpbaseClockPortTransDSEntry 2 }

ptpbaseClockPortTransDSPortNumberIndex OBJECT-TYPE
    SYNTAX          PtpClockPortNumber
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object specifies the PTP port number associated with this
        port."

```
    REFERENCE   "Section 7.5.2 Port Identity of [IEEE 1588-2008]"
    ::= { ptpbaseClockPortTransDSEntry 3 }

ptpbaseClockPortTransDSPortIdentity OBJECT-TYPE
    SYNTAX   PtpClockIdentity
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the value of the PortIdentity
        attribute of the local port."
    REFERENCE
        "Section 8.3.3.2.1 transparentClockPortDS.portIdentity of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockPortTransDSEntry 4 }

ptpbaseClockPortTransDSlogMinPdelayReqInt OBJECT-TYPE
    SYNTAX   PtpClockIntervalBase2
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the value of the logarithm to the
        base 2 of the minPdelayReqInterval."
    REFERENCE
       "Section 8.3.3.3.1 transparentClockPortDS.logMinPdelayReqInterval
        of [IEEE 1588-2008]"
    ::= { ptpbaseClockPortTransDSEntry 5 }

ptpbaseClockPortTransDSFaultyFlag OBJECT-TYPE
    SYNTAX   TruthValue
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the value TRUE if the port is faulty
        and FALSE if the port is operating normally."
    REFERENCE
        "Section 8.3.3.3.2 transparentClockPortDS.faultyFlag of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockPortTransDSEntry 6 }

ptpbaseClockPortTransDSPeerMeanPathDelay OBJECT-TYPE
    SYNTAX   PtpClockTimeInterval
    UNITS   "Time Interval"
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies, if the delayMechanism used is P2P, the
        value of the estimate of the current one-way propagation delay,
        i.e., <meanPathDelay> on the link attached to this port,
        computed using the peer delay mechanism. If the value of the
```

```
        delayMechanism used is E2E, then the value will be zero."
    REFERENCE
        "Section 8.3.3.3.3 transparentClockPortDS.peerMeanPathDelay of
        [IEEE 1588-2008]"
    ::= { ptpbaseClockPortTransDSEntry 7 }




ptpbaseClockPortAssociateTable OBJECT-TYPE
    SYNTAX           SEQUENCE OF PtpbaseClockPortAssociateEntry
    MAX-ACCESS       not-accessible
    STATUS           current
    DESCRIPTION
        "Table of information about a given port's associated ports.

        For a master port: multiple slave ports that have established
                            sessions with the current master port.
        For a slave port:  the list of masters available for a given
                            slave port.

        Session information (packets, errors) to be displayed based on
        availability and scenario."
    ::= { ptpbaseMIBClockInfo 11 }



--
-- Well Known transport types for PTP communication.
--
ptpbaseWellKnownTransportTypes OBJECT IDENTIFIER ::= {
ptpbaseMIBClockInfo 12 }

ptpbaseTransportTypeIPversion4 OBJECT-IDENTITY
    STATUS current
    DESCRIPTION
        "IP version 4"
    ::= { ptpbaseWellKnownTransportTypes 1 }

ptpbaseTransportTypeIPversion6 OBJECT-IDENTITY
   STATUS current
     DESCRIPTION
        "IP version 6"
     ::= { ptpbaseWellKnownTransportTypes 2 }

ptpbaseTransportTypeEthernet OBJECT-IDENTITY
   STATUS current
    DESCRIPTION
        "Ethernet"
     ::= { ptpbaseWellKnownTransportTypes 3 }
```

ptpbaseTransportTypeDeviceNET OBJECT-IDENTITY
   STATUS current
    DESCRIPTION
        "Device NET"
     ::= { ptpbaseWellKnownTransportTypes 4 }

ptpbaseTransportTypeControlNET OBJECT-IDENTITY
   STATUS current
    DESCRIPTION
        "Control NET"
     ::= { ptpbaseWellKnownTransportTypes 5 }

ptpbaseTransportTypeIEC61158 OBJECT-IDENTITY
   STATUS current
    DESCRIPTION
        "IEC61158"
     ::= { ptpbaseWellKnownTransportTypes 6 }

--
-- Well Known encapsulation types for PTP communication.
--
ptpbaseWellKnownEncapsulationTypes OBJECT IDENTIFIER ::= {
ptpbaseMIBClockInfo 13 }

ptpbaseEncapsulationTypeEthernet OBJECT-IDENTITY
    STATUS current
    DESCRIPTION
        "Ethernet Encapsulation type."
     ::= { ptpbaseWellKnownEncapsulationTypes 1 }

ptpbaseEncapsulationTypeVLAN OBJECT-IDENTITY
    STATUS current
    DESCRIPTION
        "VLAN Encapsulation type."
     ::= { ptpbaseWellKnownEncapsulationTypes 2 }

ptpbaseEncapsulationTypeUDPIPLSP OBJECT-IDENTITY
   STATUS current
     DESCRIPTION
        "UDP/IP over MPLS Encapsulation type."
      ::= { ptpbaseWellKnownEncapsulationTypes 3 }

ptpbaseEncapsulationTypePWUDPIPLSP OBJECT-IDENTITY
   STATUS current
     DESCRIPTION
        "UDP/IP Pseudowire over MPLS Encapsulation type."

```
     ::= { ptpbaseWellKnownEncapsulationTypes 4 }

ptpbaseEncapsulationTypePWEthernetLSP OBJECT-IDENTITY
    STATUS current
      DESCRIPTION
        "Ethernet Pseudowire over MPLS Encapsulation type."
     ::= { ptpbaseWellKnownEncapsulationTypes 5 }




ptpbaseClockPortAssociateEntry OBJECT-TYPE
    SYNTAX           PtpbaseClockPortAssociateEntry
    MAX-ACCESS       not-accessible
    STATUS           current
    DESCRIPTION
        "An entry in the table, containing information about a single
        associated port for the given clockport."
    INDEX           {
                        ptpClockPortCurrentDomainIndex,
                        ptpClockPortCurrentClockTypeIndex,
                        ptpClockPortCurrentClockInstanceIndex,
                        ptpClockPortCurrentPortNumberIndex,
                        ptpbaseClockPortAssociatePortIndex
                    }
     ::= { ptpbaseClockPortAssociateTable 1 }

PtpbaseClockPortAssociateEntry ::= SEQUENCE {
        ptpClockPortCurrentDomainIndex         PtpClockDomainType,
        ptpClockPortCurrentClockTypeIndex      PtpClockType,
        ptpClockPortCurrentClockInstanceIndex  PtpClockInstanceType,
        ptpClockPortCurrentPortNumberIndex     PtpClockPortNumber,
        ptpbaseClockPortAssociatePortIndex     Unsigned32,
        ptpbaseClockPortAssociateAddressType   AutonomousType,
        ptpbaseClockPortAssociateAddress
PtpClockPortTransportTypeAddress,
        ptpbaseClockPortAssociatePacketsSent     Counter64,
        ptpbaseClockPortAssociatePacketsReceived Counter64,
        ptpbaseClockPortAssociateInErrors        Counter64,
        ptpbaseClockPortAssociateOutErrors       Counter64
}

ptpClockPortCurrentDomainIndex OBJECT-TYPE
    SYNTAX           PtpClockDomainType
    MAX-ACCESS       not-accessible
    STATUS           current
    DESCRIPTION
        "This object specifies the given port's domain number."
     ::= { ptpbaseClockPortAssociateEntry 1 }
```

ptpClockPortCurrentClockTypeIndex OBJECT-TYPE
    SYNTAX   PtpClockType
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the given port's clock type."
    ::= { ptpbaseClockPortAssociateEntry 2 }

ptpClockPortCurrentClockInstanceIndex OBJECT-TYPE
    SYNTAX   PtpClockInstanceType
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the instance of the clock for this clock
        type in the given domain."
    ::= { ptpbaseClockPortAssociateEntry 3 }

ptpClockPortCurrentPortNumberIndex OBJECT-TYPE
    SYNTAX   PtpClockPortNumber
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the PTP Port Number for the given port."
    ::= { ptpbaseClockPortAssociateEntry 4 }

ptpbaseClockPortAssociatePortIndex OBJECT-TYPE
    SYNTAX   Unsigned32 (1..65535)
    MAX-ACCESS   not-accessible
    STATUS   current
    DESCRIPTION
        "This object specifies the associated port's serial number in
        the current port's context."
    ::= { ptpbaseClockPortAssociateEntry 5 }

ptpbaseClockPortAssociateAddressType OBJECT-TYPE
    SYNTAX   AutonomousType
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the peer port's network address type used
        for PTP communication. The OCTET STRING representation of the
        OID of ptpbaseWellKnownTransportTypes will be used in the values
        contained in the OCTET STRING."
    ::= { ptpbaseClockPortAssociateEntry 6 }

ptpbaseClockPortAssociateAddress OBJECT-TYPE
    SYNTAX   PtpClockPortTransportTypeAddress
    MAX-ACCESS   read-only
    STATUS   current

        DESCRIPTION
            "This object specifies the peer port's network address used for
            PTP communication."
        ::= { ptpbaseClockPortAssociateEntry 7 }

ptpbaseClockPortAssociatePacketsSent OBJECT-TYPE
    SYNTAX   Counter64
    UNITS   "packets"
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "The number of packets sent to this peer port from the current
        port. These counters are discontinuous."
    ::= { ptpbaseClockPortAssociateEntry 8 }

ptpbaseClockPortAssociatePacketsReceived OBJECT-TYPE
    SYNTAX   Counter64
    UNITS   "packets"
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "The number of packets received from this peer port by the
        current port. These counters are discontinuous."
    ::= { ptpbaseClockPortAssociateEntry 9 }

ptpbaseClockPortAssociateInErrors OBJECT-TYPE
    SYNTAX   Counter64
    UNITS   "packets"
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the input errors associated with the
        peer port. These counters are discontinuous."
    ::= { ptpbaseClockPortAssociateEntry 10 }

ptpbaseClockPortAssociateOutErrors OBJECT-TYPE
    SYNTAX   Counter64
    UNITS   "packets"
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
        "This object specifies the output errors associated with the
        peer port. These counters are discontinuous."
    ::= { ptpbaseClockPortAssociateEntry 11 }

-- Conformance Information Definition

ptpbaseMIBCompliances OBJECT IDENTIFIER

```
    ::= { ptpbaseMIBConformance 1 }

ptpbaseMIBGroups   OBJECT IDENTIFIER
    ::= { ptpbaseMIBConformance 2 }



ptpbaseMIBCompliancesSystemInfo MODULE-COMPLIANCE
    STATUS          current
    DESCRIPTION
        "Compliance statement for agents that provide read-only support
        for PTPBASE-MIB to provide system level information of clock
        devices.
        Such devices can only be monitored using this MIB module.

        The Module is implemented with support for read-only.  In other
        words, only monitoring is available by implementing this
        MODULE-COMPLIANCE."
    MODULE          -- this module
    MANDATORY-GROUPS { ptpbaseMIBSystemInfoGroup }
    ::= { ptpbaseMIBCompliances 1 }

ptpbaseMIBCompliancesClockInfo MODULE-COMPLIANCE
    STATUS          current
    DESCRIPTION
        "Compliance statement for agents that provide read-only support
        for PTPBASE-MIB to provide clock related information.
        Such devices can only be monitored using this MIB module.

        The Module is implemented with support for read-only. In other
        words, only monitoring is available by implementing this
        MODULE-COMPLIANCE."
    MODULE          -- this module
    MANDATORY-GROUPS {
                    ptpbaseMIBClockCurrentDSGroup,
                    ptpbaseMIBClockParentDSGroup,
                    ptpbaseMIBClockDefaultDSGroup,
                    ptpbaseMIBClockRunningGroup,
                    ptpbaseMIBClockTimepropertiesGroup
                }
    ::= { ptpbaseMIBCompliances 2 }

ptpbaseMIBCompliancesClockPortInfo MODULE-COMPLIANCE
    STATUS          current
    DESCRIPTION
        "Compliance statement for agents that provide read-only support
        for PTPBASE-MIB to provide clock port related information.
        Such devices can only be monitored using this MIB module.

        The Module is implemented with support for read-only. In other
```

```
        words, only monitoring is available by implementing this
        MODULE-COMPLIANCE."
    MODULE            -- this module
    MANDATORY-GROUPS {
                    ptpbaseMIBClockPortGroup,
                    ptpbaseMIBClockPortDSGroup,
                    ptpbaseMIBClockPortRunningGroup,
                    ptpbaseMIBClockPortAssociateGroup
                    }
    ::= { ptpbaseMIBCompliances 3 }

ptpbaseMIBCompliancesTransparentClockInfo MODULE-COMPLIANCE
    STATUS            current
    DESCRIPTION
        "Compliance statement for agents that provide read-only support
        for PTPBASE-MIB to provide Transparent clock related
        information.
        Such devices can only be monitored using this MIB module.

        The Module is implemented with support for read-only. In other
        words, only monitoring is available by implementing this
        MODULE-COMPLIANCE."
    MODULE            -- this module
    MANDATORY-GROUPS {
                    ptpbaseMIBClockTranparentDSGroup,
                    ptpbaseMIBClockPortTransDSGroup
                    }
    ::= { ptpbaseMIBCompliances 4 }

ptpbaseMIBSystemInfoGroup OBJECT-GROUP
    OBJECTS          {
                    ptpbaseSystemDomainTotals,
                    ptpDomainClockPortsTotal,
                    ptpbaseSystemProfile
                    }
    STATUS            current
    DESCRIPTION
        "Group which aggregates objects describing system-wide
        information"
    ::= { ptpbaseMIBGroups 1 }

ptpbaseMIBClockCurrentDSGroup OBJECT-GROUP
    OBJECTS          {
                    ptpbaseClockCurrentDSStepsRemoved,
                    ptpbaseClockCurrentDSOffsetFromMaster,
                    ptpbaseClockCurrentDSMeanPathDelay
                    }
    STATUS            current
    DESCRIPTION
```

```
         "Group which aggregates objects describing PTP Current Dataset
         information"
     ::= { ptpbaseMIBGroups 2 }

ptpbaseMIBClockParentDSGroup OBJECT-GROUP
     OBJECTS          {
                         ptpbaseClockParentDSParentPortIdentity,
                         ptpbaseClockParentDSParentStats,
                         ptpbaseClockParentDSOffset,
                         ptpbaseClockParentDSClockPhChRate,
                         ptpbaseClockParentDSGMClockIdentity,
                         ptpbaseClockParentDSGMClockPriority1,
                         ptpbaseClockParentDSGMClockPriority2,
                         ptpbaseClockParentDSGMClockQualityClass,
                         ptpbaseClockParentDSGMClockQualityAccuracy,
                         ptpbaseClockParentDSGMClockQualityOffset
                      }
     STATUS           current
     DESCRIPTION
         "Group which aggregates objects describing PTP Parent Dataset
         information"
     ::= { ptpbaseMIBGroups 3 }

ptpbaseMIBClockDefaultDSGroup OBJECT-GROUP
     OBJECTS          {
                         ptpbaseClockDefaultDSTwoStepFlag,
                         ptpbaseClockDefaultDSClockIdentity,
                         ptpbaseClockDefaultDSPriority1,
                         ptpbaseClockDefaultDSPriority2,
                         ptpbaseClockDefaultDSSlaveOnly,
                         ptpbaseClockDefaultDSQualityClass,
                         ptpbaseClockDefaultDSQualityAccuracy,
                         ptpbaseClockDefaultDSQualityOffset
                      }
     STATUS           current
     DESCRIPTION
         "Group which aggregates objects describing PTP Default Dataset
         information"
     ::= { ptpbaseMIBGroups 4 }

ptpbaseMIBClockRunningGroup OBJECT-GROUP
     OBJECTS          {
                         ptpbaseClockRunningState,
                         ptpbaseClockRunningPacketsSent,
                         ptpbaseClockRunningPacketsReceived
                      }
     STATUS           current
     DESCRIPTION
         "Group which aggregates objects describing PTP running state
```

```
            information"
        ::= { ptpbaseMIBGroups 5 }


ptpbaseMIBClockTimepropertiesGroup OBJECT-GROUP
        OBJECTS   {
                    ptpbaseClockTimePropertiesDSCurrentUTCOffsetValid,
                    ptpbaseClockTimePropertiesDSCurrentUTCOffset,
                    ptpbaseClockTimePropertiesDSLeap59,
                    ptpbaseClockTimePropertiesDSLeap61,
                    ptpbaseClockTimePropertiesDSTimeTraceable,
                    ptpbaseClockTimePropertiesDSFreqTraceable,
                    ptpbaseClockTimePropertiesDSPTPTimescale,
                    ptpbaseClockTimePropertiesDSSource
                    }
        STATUS          current
        DESCRIPTION
            "Group which aggregates objects describing PTP Time Properties
            information"
        ::= { ptpbaseMIBGroups 6 }


ptpbaseMIBClockTranparentDSGroup OBJECT-GROUP
        OBJECTS         {
                        ptpbaseClockTransDefaultDSClockIdentity,
                        ptpbaseClockTransDefaultDSNumOfPorts,
                        ptpbaseClockTransDefaultDSDelay,
                        ptpbaseClockTransDefaultDSPrimaryDomain
                        }
        STATUS          current
        DESCRIPTION
            "Group which aggregates objects describing PTP Transparent
            Dataset
            information"
        ::= { ptpbaseMIBGroups 7 }


ptpbaseMIBClockPortGroup OBJECT-GROUP
        OBJECTS         {
                        ptpbaseClockPortName,
                        ptpbaseClockPortSyncTwoStep,
                        ptpbaseClockPortCurrentPeerAddress,
                        ptpbaseClockPortNumOfAssociatedPorts,
                        ptpbaseClockPortCurrentPeerAddressType,
                        ptpbaseClockPortRole
                        }
        STATUS          current
        DESCRIPTION
            "Group which aggregates objects describing information for a
            given PTP Port."
        ::= { ptpbaseMIBGroups 8 }
```

ptpbaseMIBClockPortDSGroup OBJECT-GROUP
    OBJECTS   {
                        ptpbaseClockPortDSName,
                        ptpbaseClockPortDSPortIdentity,
                        ptpbaseClockPortDSlogAnnouncementInterval,
                        ptpbaseClockPortDSAnnounceRctTimeout,
                        ptpbaseClockPortDSlogSyncInterval,
                        ptpbaseClockPortDSMinDelayReqInterval,
                        ptpbaseClockPortDSPeerDelayReqInterval,
                        ptpbaseClockPortDSDelayMech,
                        ptpbaseClockPortDSPeerMeanPathDelay,
                        ptpbaseClockPortDSGrantDuration,
                        ptpbaseClockPortDSPTPVersion
                      }
    STATUS   current
    DESCRIPTION
        "Group which aggregates objects describing PTP Port Dataset
        information"
    ::= { ptpbaseMIBGroups 9 }

ptpbaseMIBClockPortRunningGroup OBJECT-GROUP
    OBJECTS   {
                        ptpbaseClockPortRunningName,
                        ptpbaseClockPortRunningState,
                        ptpbaseClockPortRunningRole,
                        ptpbaseClockPortRunningInterfaceIndex,
                        ptpbaseClockPortRunningTransport,
                        ptpbaseClockPortRunningEncapsulationType,
                        ptpbaseClockPortRunningTxMode,
                        ptpbaseClockPortRunningRxMode,
                        ptpbaseClockPortRunningPacketsReceived,
                        ptpbaseClockPortRunningPacketsSent
                      }
    STATUS   current
    DESCRIPTION
        "Group which aggregates objects describing PTP running interface
        information"
    ::= { ptpbaseMIBGroups 10 }

ptpbaseMIBClockPortTransDSGroup OBJECT-GROUP
    OBJECTS   {
                        ptpbaseClockPortTransDSPortIdentity,
                        ptpbaseClockPortTransDSlogMinPdelayReqInt,
                        ptpbaseClockPortTransDSFaultyFlag,
                        ptpbaseClockPortTransDSPeerMeanPathDelay
                      }
    STATUS   current
    DESCRIPTION
        "Group which aggregates objects describing PTP TransparentDS

```
      information"
   ::= { ptpbaseMIBGroups 11 }

ptpbaseMIBClockPortAssociateGroup OBJECT-GROUP
   OBJECTS          {
                       ptpbaseClockPortAssociatePacketsSent,
                       ptpbaseClockPortAssociatePacketsReceived,
                       ptpbaseClockPortAssociateAddress,
                       ptpbaseClockPortAssociateAddressType,
                       ptpbaseClockPortAssociateInErrors,
                       ptpbaseClockPortAssociateOutErrors
                    }
   STATUS           current
   DESCRIPTION
      "Group which aggregates objects describing information on peer
      PTP ports for a given PTP clock-port."
   ::= { ptpbaseMIBGroups 12 }


END
```

5. Security Considerations

   There are no management objects defined in this MIB module that have
   a MAX-ACCESS clause of read-write and/or read-create. So, if this
   MIB module is implemented correctly, then there is no risk that an
   intruder can alter or create any management objects of this MIB
   module via direct SNMP SET operations.

   Some of the readable objects in this MIB module (i.e., objects with a
   MAX-ACCESS other than not-accessible) may be considered sensitive or
   vulnerable in some network environments. It is thus important to
   control even GET and/or NOTIFY access to these objects and possibly
   to even encrypt the values of these objects when sending them over
   the network via SNMP.

   The following objects all have a MAX-ACCESS of read-only:

     ptpDomainClockPortsTotal,
     ptpbaseSystemDomainTotals,
     ptpbaseSystemProfile expose general information about the clock
     system.

     ptpbaseClockRunningState,
     ptpbaseClockRunningPacketsSent,
     ptpbaseClockRunningPacketsReceived expose a clock's current running
     status.

     ptpbaseClockCurrentDSStepsRemoved,

       ptpbaseClockCurrentDSOffsetFromMaster,
       ptpbaseClockCurrentDSMeanPathDelay expose the values of a clock's
       current dataset (currentDS).

       ptpbaseClockParentDSParentPortIdentity,
       ptpbaseClockParentDSParentStats,
       ptpbaseClockParentDSOffset,
       ptpbaseClockParentDSClockPhChRate,
       ptpbaseClockParentDSGMClockIdentity,
       ptpbaseClockParentDSGMClockPriority1,
       ptpbaseClockParentDSGMClockPriority2,
       ptpbaseClockParentDSGMClockQualityClass,
       ptpbaseClockParentDSGMClockQualityAccuracy,
       ptpbaseClockParentDSGMClockQualityOffset expose the values of a
       clock's parent dataset (parentDS).

       ptpbaseClockDefaultDSTwoStepFlag,
       ptpbaseClockDefaultDSClockIdentity,
       ptpbaseClockDefaultDSPriority1,
       ptpbaseClockDefaultDSPriority2,
       ptpbaseClockDefaultDSSlaveOnly,
       ptpbaseClockDefaultDSQualityClass,
       ptpbaseClockDefaultDSQualityAccuracy,
       ptpbaseClockDefaultDSQualityOffset expose the values of a clock's
       default dataset (defaultDS).

       ptpbaseClockTimePropertiesDSCurrentUTCOffsetValid,
       ptpbaseClockTimePropertiesDSCurrentUTCOffset,
       ptpbaseClockTimePropertiesDSLeap59,
       ptpbaseClockTimePropertiesDSLeap61,
       ptpbaseClockTimePropertiesDSTimeTraceable,
       ptpbaseClockTimePropertiesDSFreqTraceable,
       ptpbaseClockTimePropertiesDSPTPTimescale,
       ptpbaseClockTimePropertiesDSSource expose the values of a clock's
       time properties dataset (timePropertiesDS).

       ptpbaseClockTransDefaultDSClockIdentity,
       ptpbaseClockTransDefaultDSNumOfPorts,
       ptpbaseClockTransDefaultDSDelay,
       ptpbaseClockTransDefaultDSPrimaryDomain expose the values of a
       transparent clock's default dataset (transparentClockDefaultDS).

       ptpbaseClockPortName,
       ptpbaseClockPortRole,
       ptpbaseClockPortSyncTwoStep,
       ptpbaseClockPortCurrentPeerAddressType,
       ptpbaseClockPortCurrentPeerAddress,
       ptpbaseClockPortNumOfAssociatedPorts expose general information
       about a clock port.

      ptpbaseClockPortRunningName,
      ptpbaseClockPortRunningState,
      ptpbaseClockPortRunningRole,
      ptpbaseClockPortRunningInterfaceIndex,
      ptpbaseClockPortRunningTransport,
      ptpbaseClockPortRunningEncapsulationType,
      ptpbaseClockPortRunningTxMode,
      ptpbaseClockPortRunningRxMode,
      ptpbaseClockPortRunningPacketsReceived,
      ptpbaseClockPortRunningPacketsSent expose a clock port's current
      running status.

      ptpbaseClockPortDSName,
      ptpbaseClockPortDSPortIdentity,
      ptpbaseClockPortDSlogAnnouncementInterval,
      ptpbaseClockPortDSAnnounceRctTimeout,
      ptpbaseClockPortDSlogSyncInterval,
      ptpbaseClockPortDSMinDelayReqInterval,
      ptpbaseClockPortDSPeerDelayReqInterval,
      ptpbaseClockPortDSDelayMech,
      ptpbaseClockPortDSPeerMeanPathDelay,
      ptpbaseClockPortDSGrantDuration,
      ptpbaseClockPortDSPTPVersion expose the values of a clock port's
      port dataset (portDS).

      ptpbaseClockPortTransDSPortIdentity,
      ptpbaseClockPortTransDSlogMinPdelayReqInt,
      ptpbaseClockPortTransDSFaultyFlag,
      ptpbaseClockPortTransDSPeerMeanPathDelay expose the values of a
      transparent clock port's port dataset (transparentClockPortDS).

      ptpbaseClockPortAssociateAddressType,
      ptpbaseClockPortAssociateAddress,
      ptpbaseClockPortAssociatePacketsSent,
      ptpbaseClockPortAssociatePacketsReceived,
      ptpbaseClockPortAssociateInErrors,
      ptpbaseClockPortAssociateOutErrors expose information about a clock
      port's peer node.

   SNMP versions prior to SNMPv3 did not include adequate security.
   Even if the network itself is secure (for example by using IPSec),
   even then, there is no control as to who on the secure network is
   allowed to access and GET (read) the objects in this MIB module.

   Implementations SHOULD provide the security features described by the
   SNMPv3 framework (see [RFC 3410]), and implementations claiming
   compliance to the SNMPv3 standard MUST include full support for
   authentication and privacy via the User-based Security Model (USM)
   [RFC 3414] with the AES cipher algorithm [RFC 3826]. Implementations

MAY also provide support for the Transport Security Model (TSM)
[RFC 5591] in combination with a secure transport such as SSH
[RFC 5592] or TLS/DTLS [RFC 6353].

Further, deployment of SNMP versions prior to SNMPv3 is NOT
recommended. Instead, it is recommended to deploy SNMPv3 and to
enable cryptographic security. It is then a customer/operator
responsibility to ensure that the SNMP entity giving access to an
instance of this MIB module is properly configured to give access to
those objects only to those principals (users) that have legitimate
rights to access them.

6. IANA Considerations

   The MIB module defined in this document uses the following IANA-
   assigned OBJECT IDENTIFIER value recorded in the SMI Numbers
   registry:

           Descriptor   OBJECT IDENTIFIER value
           ----------   -----------------------
           ptpbaseMIB   { mib-2 xxx }

   [NOTE for IANA: Please allocate an object identifier at
   http://www.iana.org/assignments/smi-numbers for object ptpbaseMIB.]

7. References

7.1. Normative References

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8. Acknowledgements

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