Precision Time Protocol Version 2 (PTPv2) Management Information Base

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Overview of Draft

- Presents a MIB for a PTP Clock
  - Concentrates on standard PTP data elements
  - Associated information such as performance data metrics are to be covered in a separate MIB
- PTP protocol-specific standard data sets:
  - ***Default, Current, Parent, Time Properties, Port, TC Default*** *and* ***TC Port*** *Data Sets*
- Covers all types of PTP clocks
  - ***ordinary, boundary*** *and* ***transparent*** *clocks*
- Aims to create a standard method for managing PTP clocks

History

- 00 (Jul 11) First full, syntactically correct and compile-able MIB
- 01 (Jan 12) Revised following comments from Bert Wijnen (6 Oct 2011) + editorial changes
- 02 (Jul 12) Add flexibility to transport type
- 03 (Jul 12) Changes from Andy Bierman comments

Overall changes in -02

- Replace ptpbaseClockPortRunningVersion by ptpbaseClockPortTransportType
- Change addresses associated with transports from "InetAddress" (for the IP transport) to a string, to allow for the different transport types
- Few minor changes

Editorial changes in -02

ClockPortTransportType ::= TEXTUAL-CONVENTION
   STATUS   current
   DESCRIPTION
   DESCRIPTION
     "The Clock port transport type. The transport protocol used for the communication between the clock nodes. This includes IP version 4, IP version 6, Ethernet, DeviceNet, ControlNet and IEC61158."
   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   INTEGER {
           ipversion4(1),
           ipversion6(2),
           ethernet(3),
           DeviceNet(4),
           ControlNet(5),
           IEC61158(6)
       }

-   ptpbaseClockPortAssociateAddressType   ClockPortTransportType,
-   ptpbaseClockPortCurrentPeerAddressType   ClockPortTransportType,

Editorial changes in -02 (follow-up)

ClockPortTransportTypeAddress ::= TEXTUAL-CONVENTION
  STATUS   current
  DESCRIPTION
    "The Clock port transport protocol address used for the
    communication between the clock nodes. This is a string
    corresponding to the address type as specified by the
    ClockPortTransportType.
    This can be an address of types IP version 4, IP version 6,
    Ethernet, DeviceNet, ControlNet and IEC61158."
  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))

- ptpbaseClockPortAssociateAddress   ClockPortTransportTypeAddress,
- ptpbaseClockPortCurrentPeerAddress   ClockPortTransportTypeAddress,

Overall changes in -03

- Correct minor compiling errors and typos from -01
- Correct breaking compiling error from -02
- Move the OBJECT-GROUPS and MODULE-COMPLIANCES to the end
- Edit description clauses of MIBCompliances 1,2,3 & 4 and rename ptpbaseMIBCompliances1 to 4:
    1. ptpbaseMIBCompliancesSystemInfo
    2. ptpbaseMIBCompliancesClockInfo
    3. ptpbaseMIBCompliancesClockPortInfo
    4. ptpbaseMIBCompliancesTransparentClockInfo
- Add an Annex with list of extended structures which has been added in -01
- Minor edit corrections from -02

Current Status

- Last call issued in October (on -00)
- One review since -01 (Andy Bierman)
- Requires more "MIB Doctor" review

Next steps

- For further flexibility on transport type object, use AutonomousType textual convention and define the transport types using OBJECT-IDENTITY statements.
  - Ex: PTPoMPLS
- New related MIBs
  - MIB for ITU profile (extension) ➔ ITU-T SG13?
    - G.8265.1
    - G.8275.1 (working item; telecom profile for time)
    - Metrics? (reference: ITU-T G.8260 Appendix I)