# 15. Managed object definitions

## 15.1 Internet Standard Management Framework

For a detailed overview of the documents that describe the current Internet Standard Management Framework, refer to section 7 of IETF RFC 3410 (Dec. 2002).

Managed objects are accessed via a virtual information store, termed the *Management Information Base* (MIB). MIB objects are generally accessed through the Simple Network Management Protocol (SNMP). Objects in the MIB are defined using the mechanisms defined in the Structure of Management Information (SMI). This clause specifies a MIB module that is compliant to the SMIv2, which is described in IETF STD 58, comprising IETF RFC 2578 [B11], IETF RFC 2579 [B12], and IETF RFC 2580 [B13].

This clause contains a complete SMIv2 MIB set for all features of this standard.

## 15.2 Structure of the MIB

The IEEE 802.1AS MIB provides objects to configure and manage the IEEE 802.1AS timing and synchronization for time-sensitive applications.

The MIB contains a set of textual conventions and is additionally subdivided into the following subtrees, each of which is organized as a set of related objects:

a) The Default Parameter Data Set (defaultDS) represents the native capabilities of a PTP Instance.
b) The Current Parameter Data Set (currentDS) represents topological position of a local PTP Instance relative to the Grandmaster PTP Instance.
c) The Parent Parameter Data Set (parentDS) represents capabilities of the upstream PTP Instance toward the Grandmaster PTP Instance, as measured at a local PTP Instance.
d) The Time Properties Parameter Data Set (timePropertiesDS) represents capabilities of the Grandmaster PTP Instance, as measured at a local PTP Instance.
e) The Path Trace Parameter Data Set (pathTraceDS) represents the current path trace information (see 10.3.9.23) available at the PTP Instance.
f) The Acceptable Master Table Parameter Data Set (acceptableMasterTableDS) represents the acceptable master table used when the media-dependent PTP Port type of EPON is present in a PTP Instance.
g) The Port Parameter Data Set (portDS) represents time-aware capabilities at a given PTP Port, as a set of augmentation to the interface table entry (ifEntry).
h) The Description Port Parameter Data Set (descriptionPortDS) contains the profileIdentifier for this PTP profile as specified in F.2.
i) The Port Parameter Statistics Data Set (portStatisticsDS) represents statistics and counters associated with time-aware capabilities at a given PTP Relay Instance or PTP End Instance port.
j) The Acceptable Master Port Parameter Data Set (acceptableMasterPortDS) represents the capability to enable/disable the acceptable master table feature on a PTP Port.
k) The External Port Configuration Port Parameter Data Set (externalPortConfigurationPortDS) is used with the external port configuration option to indicate the desired state of a PTP Port.
l) The Asymmetry Measurement Mode Parameter Data Set (asymmetryMeasurementModeDS) represents the capability to enable/disable the Asymmetry Compensation Measurement Procedure on a port (see Annex G) and is used instead of the cmldsAsymmetryMeasurementModeDS when CMLDS is not used and there is a single gPTP domain.

m) The Common Services Port Parameter Data Set (commonServicesPortDS) enables a PTP Port of a PTP Instance to determine which port of the respective common service corresponds to that PTP Port.

n) The Common Mean Link Delay Service Default Parameter Data Set (cmldsDefaultDS) describes the per-time-aware-system attributes of the Common Mean Link Delay Service.

o) The Common Mean Link Delay Service Link Port Parameter Data Set (cmldsLinkPortDS) represents time-aware Link Port capabilities for the Common Mean Link Delay Service of a time-aware system.

p) The Common Mean Link Delay Service Link Port Parameter Statistics Data Set (cmldsLinkPortStatisticsDS) represents statistics and counters associated with Link Port capabilities at a given time-aware system.

q) The Common Mean Link Delay Service Asymmetry Measurement Mode Parameter Data Set (cmldsAsymmetryMeasurementModeDS) represents the capability to enable/disable the Asymmetry Compensation Measurement Procedure on a Link Port (see Annex G).

Table 15-1 shows the structure of the MIB and the relationship of the MIB objects to the above data sets.

**Table 15-1—IEEE8021-AS-V2 MIB structure and object cross reference**

| MIB table | MIB object | Reference |
|---|---|---|
| ieee8021AsV2DefaultDS | | defaultDS table (Table 14-1) |
| | ieee8021AsV2DefaultDSClockIdentity | 14.2.2 |
| | ieee8021AsV2DefaultDSNumberPorts | 14.2.3 |
| | ieee8021AsV2DefaultDSClockQualityClockClass | 14.2.4.2 |
| | ieee8021AsV2DefaultDSClockQualityClockAccuracy | 14.2.4.3 |
| | ieee8021AsV2DefaultDSClockQualityOffsetScaledLogVariance | 14.2.4.4 |
| | ieee8021AsV2DefaultDSPriority1 | 14.2.5 |
| | ieee8021AsV2DefaultDSPriority2 | 14.2.6 |
| | ieee8021AsV2DefaultDSGmCapable | 14.2.7 |
| | ieee8021AsV2DefaultDSCurrentUtcOffset | 14.2.8 |
| | ieee8021AsV2DefaultDSCurrentUtcOffsetValid | 14.2.9 |
| | ieee8021AsV2DefaultDSLeap59 | 14.2.10 |
| | ieee8021AsV2DefaultDSLeap61 | 14.2.11 |
| | ieee8021AsV2DefaultDSTimeTraceable | 14.2.12 |
| | ieee8021AsV2DefaultDSFrequencyTraceable | 14.2.13 |
| | ieee8021AsV2DefaultDSPtpTimescale | 14.2.14 |
| | ieee8021AsV2DefaultDSTimeSource | 14.2.15 |
| | ieee8021AsV2DefaultDSDomainNumber | 14.2.16 |
| | ieee8021AsV2DefaultDSSdoId | 14.2.17 |
| | ieee8021AsV2DefaultDSExternalPortConfigurationEnabled | 14.2.18 |
| | ieee8021AsV2DefaultDSInstanceEnable | 14.2.19 |

**Table 15-1—IEEE8021-AS-V2 MIB structure and object cross reference *(continued)***

| MIB table | MIB object | Reference |
|---|---|---|
| ieee8021AsV2CurrentDS | | currentDS table (Table 14-2) |
| | ieee8021AsV2CurrentDSStepsRemoved | 14.3.2 |
| | ieee8021AsV2CurrentDSOffsetFromMaster | 14.3.3 |
| | ieee8021AsV2CurrentDSLastGmPhaseChange | 14.3.4 |
| | ieee8021AsV2CurrentDSLastGmFreqChange | 14.3.5 |
| | ieee8021AsV2CurrentDSGmTimebaseIndicator | 14.3.6 |
| | ieee8021AsV2CurrentDSGmChangeCount | 14.3.7 |
| | ieee8021AsV2CurrentDSTimeOfLastGmChangeEvent | 14.3.8 |
| | ieee8021AsV2CurrentDSTimeOfLastGmPhaseChangeEvent | 14.3.9 |
| | ieee8021AsV2CurrentDSTimeOfLastGmFreqChangeEvent | 14.3.10 |
| ieee8021AsV2ParentDS | | parentDS table (Table 14-3) |
| | ieee8021AsV2ParentDSParentClockIdentity | 14.4.2 |
| | ieee8021AsV2ParentDSParentPortNumber | 14.4.2 |
| | ieee8021AsV2ParentDSCumulativeRateRatio | 14.4.3 |
| | ieee8021AsV2ParentDSGrandmasterIdentity | 14.4.4 |
| | ieee8021AsV2ParentDSGrandmasterClockQualityclockClass | 14.4.5.2 |
| | ieee8021AsV2ParentDSGrandmasterClockQualityclockAccuracy | 14.4.5.3 |
| | ieee8021AsV2ParentDSGrandmasterClockQualityoffsetScaledLogVar | 14.4.5.4 |
| | ieee8021AsV2ParentDSGrandmasterPriority1 | 14.4.6 |
| | ieee8021AsV2ParentDSGrandmasterPriority2 | 14.4.7 |
| ieee8021AsV2TimePropertiesDS | | timePropertiesDS table (Table 14-4) |
| | ieee8021AsV2TimePropertiesDSCurrentUtcOffset | 14.5.2 |
| | ieee8021AsV2TimePropertiesDSCurrentUtcOffsetValid | 14.5.3 |
| | ieee8021AsV2TimePropertiesDSLeap59 | 14.5.4 |
| | ieee8021AsV2TimePropertiesDSLeap61 | 14.5.5 |
| | ieee8021AsV2TimePropertiesDSTimeTraceable | 14.5.6 |
| | ieee8021AsV2TimePropertiesDSFrequencyTraceable | 14.5.7 |
| | ieee8021AsV2TimePropertiesDSPtpTimescale | 14.5.8 |
| | ieee8021AsV2TimePropertiesDSTimeSource | 14.5.9 |
| ieee8021AsV2PathTraceDS | | pathTraceDS table (Table 14-5) |
| | ieee8021AsV2PathTraceDSEnable | 14.6.3 |

**Table 15-1—IEEE8021-AS-V2 MIB structure and object cross reference *(continued)***

| MIB table | MIB object | Reference |
|---|---|---|
| ieee8021AsV2PathTraceDSArray | | pathTraceDS table (Table 14-5) |
| | ieee8021AsV2PathTraceDSArrayList | 14.6.2 |
| ieee8021AsV2AcceptableMasterTableDS | | acceptableMasterTableDS table (Table 14-6) |
| | ieee8021AsV2AcceptableMasterTableDSMaxTableSize | 14.7.2 |
| | ieee8021AsV2AcceptableMasterTableDSActualTableSize | 14.7.3 |
| ieee8021AsV2AcceptableMasterTableDSArray | | acceptableMasterTableDS table (Table 14-6) |
| | ieee8021AsV2AcceptableMasterTableDSArrayPortIdentity | 14.7.4 |
| | ieee8021AsV2AcceptableMasterTableDSArrayAlternatePriority1 | 14.7.4 |
| ieee8021AsV2PortDS | | portDS table (Table 14-10) |
| | ieee8021AsV2PortDSClockIdentity | 14.8.2 |
| | ieee8021AsV2PortDSPortNumber | 14.8.2 |
| | ieee8021AsV2PortDSPortState | 14.8.3 |
| | ieee8021AsV2PortDSPtpPortEnabled | 14.8.4 |
| | ieee8021AsV2PortDSdelayMechanism | 14.8.5 |
| | ieee8021AsV2PortDSIsMeasuringDelay | 14.8.6 |
| | ieee8021AsV2PortDSAsCapable | 14.8.7 |
| | ieee8021AsV2PortDSMeanLinkDelay | 14.8.8 |
| | ieee8021AsV2PortDSMeanLinkDelayThresh | 14.8.9 |
| | ieee8021AsV2PortDSDelayAsym | 14.8.10 |
| | ieee8021AsV2PortDSNbrRateRatio | 14.8.11 |
| | ieee8021AsV2PortDSInitialLogAnnounceInterval | 14.8.12 |
| | ieee8021AsV2PortDSCurrentLogAnnounceInterval | 14.8.13 |
| | ieee8021AsV2PortDSUseMgtSettableLogAnnounceInterval | 14.8.14 |
| | ieee8021AsV2PortDSMgtSettableLogAnnounceInterval | 14.8.15 |
| | ieee8021AsV2PortDSAnnounceReceiptTimeout | 14.8.16 |
| | ieee8021AsV2PortDSInitialLogSyncInterval | 14.8.17 |
| | ieee8021AsV2PortDSCurrentLogSyncInterval | 14.8.18 |
| | ieee8021AsV2PortDSUseMgtSettableLogSyncInterval | 14.8.19 |
| | ieee8021AsV2PortDSMgtSettableLogSyncInterval | 14.8.20 |
| | ieee8021AsV2PortDSSyncReceiptTimeout | 14.8.21 |
| | ieee8021AsV2PortDSSyncReceiptTimeoutTimeInterval | 14.8.22 |
| | ieee8021AsV2PortDSInitialLogPdelayReqInterval | 14.8.23 |

**Table 15-1—IEEE8021-AS-V2 MIB structure and object cross reference *(continued)***

| MIB table | MIB object | Reference |
|---|---|---|
| | ieee8021AsV2PortDSCurrentLogPdelayReqInterval | 14.8.24 |
| | ieee8021AsV2PortDSUseMgtSettableLogPdelayReqInterval | 14.8.25 |
| | ieee8021AsV2PortDSMgtSettableLogPdelayReqInterval | 14.8.26 |
| | ieee8021AsV2PortDSInitialLogGptpCapableMessageInterval | 14.8.27 |
| | ieee8021AsV2PortDSCurrentLogGptpCapableMessageInterval | 14.8.28 |
| | ieee8021AsV2PortDSUseMgtSettableLogGptpCapableMessageInterval | 14.8.29 |
| | ieee8021AsV2PortDSMgtSettableLogGptpCapableMessageInterval | 14.8.30 |
| | ieee8021AsV2PortDSInitialComputeNbrRateRatio | 14.8.31 |
| | ieee8021AsV2PortDSCurrentComputeNbrRateRatio | 14.8.32 |
| | ieee8021AsV2PortDSUseMgtSettableComputeNbrRateRatio | 14.8.33 |
| | ieee8021AsV2PortDSMgtSettableComputeNbrRateRatio | 14.8.34 |
| | ieee8021AsV2PortDSInitialComputeMeanLinkDelay | 14.8.35 |
| | ieee8021AsV2PortDSCurrentComputeMeanLinkDelay | 14.8.36 |
| | ieee8021AsV2PortDSUseMgtSettableComputeMeanLinkDelay | 14.8.37 |
| | ieee8021AsV2PortDSMgtSettableComputeMeanLinkDelay | 14.8.38 |
| | ieee8021AsV2PortDSAllowedLostRsp | 14.8.39 |
| | ieee8021AsV2PortDSAllowedFaults | 14.8.40 |
| | ieee8021AsV2PortDSGPtpCapableReceiptTimeout | 14.8.41 |
| | ieee8021AsV2PortDSVersionNumber | 14.8.42 |
| | ieee8021AsV2PortDSNup | 14.8.43 |
| | ieee8021AsV2PortDSNdown | 14.8.44 |
| | ieee8021AsV2PortDSOneStepTxOper | 14.8.45 |
| | ieee8021AsV2PortDSOneStepReceive | 14.8.46 |
| | ieee8021AsV2PortDSOneStepTransmit | 14.8.47 |
| | ieee8021AsV2PortDSInitialOneStepTxOper | 14.8.48 |
| | ieee8021AsV2PortDSCurrentOneStepTxOper | 14.8.49 |
| | ieee8021AsV2PortDSUseMgtSettableOneStepTxOper | 14.8.50 |
| | ieee8021AsV2PortDSMgtSettableOneStepTxOper | 14.8.51 |
| | ieee8021AsV2PortDSSyncLocked | 14.8.52 |
| | ieee8021AsV2PortDSPdelayTruncTST1 | 14.8.53 |
| | ieee8021AsV2PortDSPdelayTruncTST2 | 14.8.53 |
| | ieee8021AsV2PortDSPdelayTruncTST3 | 14.8.53 |

**Table 15-1—IEEE8021-AS-V2 MIB structure and object cross reference *(continued)***

| MIB table | MIB object | Reference |
|---|---|---|
| | ieee8021AsV2PortDSPdelayTruncTST4 | 14.8.53 |
| | ieee8021AsV2PortDSMinorVersionNumber | 14.8.54 |
| ieee8021AsV2DescriptionPortDS | | descriptionPortDS table (Table 14-11) |
| | ieee8021AsV2DescriptionPortDSProfileIdentifier | 14.9.2 |
| ieee8021AsV2PortStatDS | | portStatisticsDS table (Table 14-12) |
| | ieee8021AsV2PortStatRxSyncCount | 14.10.2 |
| | ieee8021AsV2PortStatRxOneStepSyncCount | 14.10.3 |
| | ieee8021AsV2PortStatRxFollowUpCount | 14.10.4 |
| | ieee8021AsV2PortStatRxPdelayRequestCount | 14.10.5 |
| | ieee8021AsV2PortStatRxPdelayRspCount | 14.10.6 |
| | ieee8021AsV2PortStatRxPdelayRspFollowUpCount | 14.10.7 |
| | ieee8021AsV2PortStatRxAnnounceCount | 14.10.8 |
| | ieee8021AsV2PortStatRxPtpPacketDiscardCount | 14.10.9 |
| | ieee8021AsV2PortStatSyncReceiptTimeoutCount | 14.10.10 |
| | ieee8021AsV2PortStatAnnounceReceiptTimeoutCount | 14.10.11 |
| | ieee8021AsV2PortStatPdelayAllowedLostRspExceededCount | 14.10.12 |
| | ieee8021AsV2PortStatTxSyncCount | 14.10.13 |
| | ieee8021AsV2PortStatTxOneStepSyncCount | 14.10.14 |
| | ieee8021AsV2PortStatTxFollowUpCount | 14.10.15 |
| | ieee8021AsV2PortStatTxPdelayRequestCount | 14.10.16 |
| | ieee8021AsV2PortStatTxPdelayRspCount | 14.10.17 |
| | ieee8021AsV2PortStatTxPdelayRspFollowUpCount | 14.10.18 |
| | ieee8021AsV2PortStatTxAnnounceCount | 14.10.19 |
| ieee8021AsV2AcceptableMasterPortDS | | acceptableMasterTableDS table (Table 14-13) |
| | ieee8021AsV2AcceptableMasterPortDSAcceptableMasterTableEnabled | 14.11.2 |
| ieee8021AsV2ExternalPortConfigurationPortDS | | externalPortConfigurationPortDS table (Table 14-14) |
| | ieee8021AsV2ExternalPortConfigurationPortDSDesiredState | 14.12.2 |
| ieee8021AsV2AsymMeasurementModeDS | | asymmetryMeasurementModeDS table (Table 14-15) |
| | ieee8021AsV2AsymMeasurementModeDSAsymMeasurementMode | 14.13.2 |

**Table 15-1—IEEE8021-AS-V2 MIB structure and object cross reference *(continued)***

| MIB table | MIB object | Reference |
|---|---|---|
| ieee8021AsV2CommonServicesPortDS | | commonServicesPortDS table (Table 14-16) |
| | ieee8021AsV2CommonServicesPortDSCmldsLinkPortPortNumber | 14.14.2 |
| ieee8021AsV2CommonMeanLinkDelayServiceDefaultDS | | cmldsDefaultDS table (Table 14-17) |
| | ieee8021AsV2CmldsDefaultDSClockIdentity | 14.15.2 |
| | ieee8021AsV2CmldsDefaultDSNumberLinkPorts | 14.15.3 |
| ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDS | | cmldsLinkPortDS table (Table 14-18) |
| | ieee8021AsV2CmldsLinkPortDSClockIdentity | 14.16.2 |
| | ieee8021AsV2CmldsLinkPortDSPortNumber | 14.16.2 |
| | ieee8021AsV2CmldsLinkPortDSCmldsLinkPortEnabled | 14.16.3 |
| | ieee8021AsV2CmldsLinkPortDSIsMeasuringDelay | 14.16.4 |
| | ieee8021AsV2CmldsLinkPortDSAsCapableAcrossDomains | 14.16.5 |
| | ieee8021AsV2CmldsLinkPortDSMeanLinkDelay | 14.16.6 |
| | ieee8021AsV2CmldsLinkPortDSMeanLinkDelayThresh | 14.16.7 |
| | ieee8021AsV2CmldsLinkPortDSDelayAsym | 14.16.8 |
| | ieee8021AsV2CmldsLinkPortDSNbrRateRatio | 14.16.9 |
| | ieee8021AsV2CmldsLinkPortDSInitialLogPdelayReqInterval | 14.16.10 |
| | ieee8021AsV2CmldsLinkPortDSCurrentLogPdelayReqInterval | 14.16.11 |
| | ieee8021AsV2CmldsLinkPortDSUseMgtSettableLogPdelayReqInterval | 14.16.12 |
| | ieee8021AsV2CmldsLinkPortDSMgtSettableLogPdelayReqInterval | 14.16.13 |
| | ieee8021AsV2CmldsLinkPortDSInitialComputeNbrRateRatio | 14.16.14 |
| | ieee8021AsV2CmldsLinkPortDSCurrentComputeNbrRateRatio | 14.16.15 |
| | ieee8021AsV2CmldsLinkPortDSUseMgtSettableComputeNbrRateRatio | 14.16.16 |
| | ieee8021AsV2CmldsLinkPortDSMgtSettableComputeNbrRateRatio | 14.16.17 |
| | ieee8021AsV2CmldsLinkPortDSInitialComputeMeanLinkDelay | 14.16.18 |
| | ieee8021AsV2CmldsLinkPortDSCurrentComputeMeanLinkDelay | 14.16.19 |
| | ieee8021AsV2CmldsLinkPortDSUseMgtSettableComputeMeanLinkDelay | 14.16.20 |
| | ieee8021AsV2CmldsLinkPortDSMgtSettableComputeMeanLinkDelay | 14.16.21 |
| | ieee8021AsV2CmldsLinkPortDSAllowedLostRsp | 14.16.22 |
| | ieee8021AsV2CmldsLinkPortDSAllowedFaults | 14.16.23 |

**Table 15-1—IEEE8021-AS-V2 MIB structure and object cross reference *(continued)***

| MIB table | MIB object | Reference |
|---|---|---|
| | ieee8021AsV2CmldsLinkPortDSVersionNumber | 14.16.24 |
| | ieee8021AsV2CmldsLinkPortDSPdelayTruncTST1 | 14.16.25 |
| | ieee8021AsV2CmldsLinkPortDSPdelayTruncTST2 | 14.16.25 |
| | ieee8021AsV2CmldsLinkPortDSPdelayTruncTST3 | 14.16.25 |
| | ieee8021AsV2CmldsLinkPortDSPdelayTruncTST4 | 14.16.25 |
| | ieee8021AsV2CmldsLinkPortDSMinorVersionNumber | 14.16.26 |
| ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDS | | cmldsLinkPortStatisticsDS table (Table 14-19) |
| | ieee8021AsV2CmldsLinkPortStatDSRxPdelayRequestCount | 14.17.2 |
| | ieee8021AsV2CmldsLinkPortStatDSRxPdelayRspCount | 14.17.3 |
| | ieee8021AsV2CmldsLinkPortStatDSRxPdelayRspFollowUpCount | 14.17.4 |
| | ieee8021AsV2CmldsLinkPortStatDSRxPtpPacketDiscardCount | 14.17.5 |
| | ieee8021AsV2CmldsLinkPortStatDSPdelayAllowedLostRspExceedCount | 14.17.6 |
| | ieee8021AsV2CmldsLinkPortStatDSTxPdelayRequestCount | 14.17.7 |
| | ieee8021AsV2CmldsLinkPortStatDSTxPdelayRspCount | 14.17.8 |
| | ieee8021AsV2CmldsLinkPortStatDSTxPdelayRspFollowUpCount | 14.17.9 |
| ieee8021AsV2CommonMeanLinkDelayServiceAsymMeasurementModeDS | | cmldsAsymmetryMeasurementModeDS table (Table 14-20) |
| | ieee8021AsV2CmldsAsymMeasurementModeDSAsymMeasurementMode | 14.18.2 |

## 15.3 Relationship to MIB in IEEE Std 802.1AS-2011

The version 1 MIB module (IEEE8021-AS MIB) that was published in IEEE Std 802.1AS-2011 has been superseded by the version 2 MIB module (IEEE8021-AS-V2 MIB) specified in 15.6 of the current standard, IEEE Std 802.1AS-2019. Support of the version 2 module is a requirement for conformance to the required or optional capabilities (Clause 5) in the current standard. The version 2 MIB module reflects changes in indexation of the MIB objects for optional support of multiple PTP Instances (i.e., multiple domains), as discussed in 14.1.

For an implementation that supports a single PTP Instance, version 1 and version 2 implementations can successfully co-exist and interoperate.

## 15.4 Security considerations

SNMP versions prior to SNMPv3 did not include adequate security. Even if the network itself is secure (for example by using IPsec), there is no control as to who on the secure network is allowed to access and GET/SET (read/change/create/delete) the objects in these MIB module.

It is recommended that implementers consider the security features as provided by the SNMPv3 framework [see section 8 in IETF RFC 3410 (Dec. 2002)], including full support for the SNMPv3 cryptographic mechanisms (for authentication and privacy).

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 these MIB modules is properly configured to give access to the objects only to the principals (users) that have legitimate rights to indeed GET or SET (change/create/delete) them.

A number of management objects defined in the IEEE8021-AS-V2 MIB module have a MAX-ACCESS clause of read-write and/or read-create. Such objects might be considered sensitive or vulnerable in some network environments. The support for SET operations in a non-secure environment without proper protection can have a negative effect on network operations.

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

The following objects in the IEEE8021-AS-V2 MIB can be manipulated to interfere with the operation of timing synchronization. This could, for example, be used to force a reinitialization of state machines to cause timing synchronization and network instability. Another possibility would be for an attacker to override Grandmaster PTP Instance status to give a user (or an attacker) unauthorized control over the network time.

Improper manipulation of the following writable objects could result in an unintended Grandmaster PTP Instance to be elected when a system is grandmaster-capable in a gPTP domain. It could also be used maliciously to cause frequent Grandmaster PTP Instance changes that could affect network stability.

ieee8021AsV2DefaultDSPriority1
ieee8021AsV2DefaultDSPriority2

Improper manipulation of the following writable objects could result in a segmented time-aware network, could compromise the expected accuracy, and could interrupt paths of the gPTP domain.

ieee8021AsV2PortDSPtpPortEnabled
ieee8021AsV2PortDSDelayAsymmetry

Unintended access to any of the readable tables or variables in the IEEE8021-AS-V2 MIB alerts the reader that timing synchronization in gPTP domain is configured, and on which values timing parameters are configured, and which system is current Grandmaster PTP Instance. This information can suggest to an attacker what applications are being run, and thus suggest application-specific attacks, or can enable the attacker to detect whether their attacks are being successful. It is thus important to control even GET access to these objects and possibly to even encrypt the values of these objects when sending them over the network via SNMP.

## 15.5 Textual conventions defined in this MIB

The following textual conventions are defined in this MIB:

a) Ieee8021AsV2ClockIdentity. IEEE 802 MAC address represented in "canonical" order defined by IEEE Std 802-2014, 64-bit Network Unique Identifier (NUI-64) as described in IEEE Std 802c-2017.
b) Ieee8021AsV2GPtpProfileIdentifier. Profile identifier (see 14.9.2).
c) Ieee8021AsV2ClockClassValue. Clock class value (see 8.6.2.2).
d) Ieee8021AsV2ClockAccuracyValue. Clock accuracy value (see 8.6.2.3).
e) Ieee8021AsV2TimeSourceValue. Source of time used by Grandmaster PTP Instance (see 8.6.2.7).
f) Ieee8021ASV2PtpTimeInterval. Time intervals in units of $2^{-16}$ ns (see 6.4.3.3).
g) Ieee8021ASV2PtpPortIdentity. Identifies a port of a PTP Instance (see 6.4.3.7).
h) Ieee8021ASV2ScaledNs. Represents signed values of time and time interval in units of $2^{-16}$ ns (see 6.4.3.1).
i) Ieee8021ASV2UScaledNs. Represents unsigned values of time and time interval in units of $2^{-16}$ ns (see 6.4.3.2).
j) Ieee8021ASV2PTPInstanceIdentifier. Entity of a single time-aware system that executes gPTP in one gPTP domain (see 7.2.1 and 8.1).
k) Ieee8021ASV2Timestamp. Value of Ieee8021ASV2Timestamp is equal to the remainder obtained upon dividing the respective timestamp, expressed in units of $2^{-16}$ ns, by $2^{48}$) (see 14.8.53).

## 15.6 IEEE 802.1AS MIB module[15,16]

In the following MIB modules definitions, if any discrepancy between the DESCRIPTION text and the corresponding definition in any other part of this standard occurs, the definitions outside this subclause take precedence.

[15] Copyright release for MIBs: Users of this standard may freely reproduce the MIBs contained in this subclause so that they can be used for their intended purpose.
[16] An ASCII version of this MIB module can be obtained from the IEEE 802.1 website at https://www.ieee802.org/1/pages/MIBS.html.

```
IEEE8021-AS-V2-MIB DEFINITIONS ::= BEGIN
-- ============================================================
-- MIB for support of 802.1AS Timing and Synchronization in
-- IEEE 802.1Q Bridged Local Area Networks
-- ============================================================

IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE, Unsigned32, Integer32, Counter32
        FROM SNMPv2-SMI              -- [RFC2578]
    TEXTUAL-CONVENTION, TruthValue, RowStatus, TimeStamp
        FROM SNMPv2-TC               -- [RFC2579]
    MODULE-COMPLIANCE, OBJECT-GROUP  -- [RFC2580]
        FROM SNMPv2-CONF
      SnmpAdminString
            FROM SNMP-FRAMEWORK-MIB      -- [RFC3411]
    InterfaceIndexOrZero
        FROM IF-MIB                  -- [RFC2863]
    Float64TC
        FROM FLOAT-TC-MIB            -- [RFC6340]
    IEEE8021BridgePortNumber
        FROM IEEE8021-TC-MIB
    ;

ieee8021AsV2TimeSyncMib MODULE-IDENTITY
    LAST-UPDATED "202006080000Z" -- June 8, 2020
    ORGANIZATION "IEEE 802.1 Working Group"
    CONTACT-INFO
                "WG-URL: http://ieee802.org/1/
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    DESCRIPTION
        "The Management Information Base module for
         IEEE 802.1AS time-synchronization protocol."

    REVISION    "202006080000Z" -- June 8, 2020
    DESCRIPTION
        "Published as part of IEEE Std 802.1AS-2020, a revision.
         This MIB module 1) adds support for multiple domains through
         hierarchical instances of datasets, and 2) adds common
         service datasets that are common to all PTP Instances.

         Unless otherwise indicated, the references in this MIB
         module are to IEEE Std 802.1AS-2020.

         This MIB Structure comprises (see 14.1.1):
         a) instanceList[], per PTP Instance in a system
             1) defaultDS
```

```
            2) currentDS
            3) parentDS
            4) timePropertiesDS
            5) pathTraceDS
            6) acceptableMasterTableDS
            7) portList[], per PTP Port (per PTP Instance)
                  i) portDS
                  ii) descriptionPortDS
                  iii) portStatisticsDS
                  iv) acceptableMasterPortDS
                  v) externalPortConfigurationPortDS
                  vi) asymmetryMeasurementModeDS
                  vii) commonServicesPortDS
        b) commonServices, per PTP Port.
            1) commonMeanLinkDelayService
                  i) cmldsDefaultDS
                  ii) cmldsLinkPortList[] per PTP Port.
                       - cmldsLinkPortDS
                       - cmldsLinkPortStatisticsDS
                       - cmldsAsymmetryMeasurementModeDS
            2) <future common services can follow>

        Published as part of IEEE Std 802.1AS-2020
        Copyright (C) IEEE (2020).
        This version of this MIB module is part of IEEE Std
        802.1AS-2020; see the standard itself for full legal
        notices."

  ::= { iso(1) org(3) ieee(111)
        standards-association-numbers-series-standards (2)
        lan-man-stds (802) ieee802dot1 (1) ieee802dot1mibs (1) 33 }

ieee8021AsV2MIBObjects    OBJECT IDENTIFIER ::= {ieee8021AsV2TimeSyncMib 1}
ieee8021AsV2Conformance   OBJECT IDENTIFIER ::= {ieee8021AsV2TimeSyncMib 2}

-- ============================================================
-- Textual Conventions
-- ============================================================

Ieee8021AsV2ClockIdentity ::= TEXTUAL-CONVENTION
    DISPLAY-HINT
        "1x:"
    STATUS current
    DESCRIPTION
        "The Ieee8021AsV2ClockIdentity type identifies a PTP Instance.
         The clockIdentity attribute shall be as specified in
         IEEE Std 1588-2019."
    REFERENCE    "6.4.3.6, 8.5.2.2 and IEEE Std 1588-2019 7.5.2.2"
    SYNTAX OCTET STRING (SIZE (8))

Ieee8021AsV2GPtpProfileIdentifier ::= TEXTUAL-CONVENTION
    DISPLAY-HINT
        "1x:"
    STATUS current
    DESCRIPTION
        "The Ieee8021AsV2GPtpProfileIdentifier attribute is the
```

```
         profileIdentifier for this PTP profile."
    REFERENCE    "14.9.2, F.1 "
    SYNTAX OCTET STRING (SIZE (6))

Ieee8021AsV2ClockClassValue ::= TEXTUAL-CONVENTION
    STATUS       current
    DESCRIPTION
        "The Ieee8021AsV2ClockClassValue attribute denotes the traceability
         of the synchronized time distributed by a ClockMaster when it is
         the Grandmaster PTP Instance.
         A more detailed description of clockClass can be found in
         IEEE Std 1588-2019."
    REFERENCE    "8.6.2.2 and IEEE Std 1588-2019 7.6.2.5"
    SYNTAX     INTEGER {
        primarySync(6),
        primarySyncLost(7),
        applicationSpecificSync(13),
        applicationSpecficSyncLost(14),
        primarySyncAlternativeA(52),
        applicationSpecificAlternativeA(58),
        primarySyncAlternativeB(187),
        applicationSpecficAlternativeB(193),
        defaultClock(248),
        slaveOnlyClock(255)
        }

Ieee8021AsV2ClockAccuracyValue ::= TEXTUAL-CONVENTION
    STATUS       current
    DESCRIPTION
        "The Ieee8021AsV2ClockAccuracyValue attribute indicates the
         expected time accuracy of a ClockMaster.
         A more detailed description of clockAccuracy can be found in
         IEEE Std 1588-2019."
    REFERENCE    "8.6.2.3 and IEEE Std 1588-2019 7.6.2.6"
    SYNTAX     INTEGER {
        timeAccurateTo25ns(32),
        timeAccurateTo100ns(33),
        timeAccurateTo250ns(34),
        timeAccurateTo1us(35),
        timeAccurateTo2dot5us(36),
        timeAccurateTo10us(37),
        timeAccurateTo25us(38),
        timeAccurateTo100us(39),
        timeAccurateTo250us(40),
        timeAccurateTo1ms(41),
        timeAccurateTo2dot5ms(42),
        timeAccurateTo10ms(43),
        timeAccurateTo25ms(44),
        timeAccurateTo100ms(45),
        timeAccurateTo250ms(46),
        timeAccurateTo1s(47),
        timeAccurateTo10s(48),
        timeAccurateToGT10s(49),
        timeAccurateToUnknown(254)
        }
```

```
Ieee8021AsV2TimeSourceValue ::= TEXTUAL-CONVENTION
    STATUS       current
    DESCRIPTION
        "The Ieee8021AsV2TimeSourceValue is an information only
         attribute indicating the type of source of time used by a
         ClockMaster. The value is not used in the selection of the
         Grandmaster PTP Instance. The values of TimeSource are
         given below and are specified in Table 8-2. These represent
         categories. For example, the GPS entry includes not only the
         GPS system of the U.S. Department of Defense but the European
         Galileo system and other present and future GNSSs.

         In the absence of a default value set by a user of this standard,
         the default value of timeSource shall be INTERNAL_OSCILLATOR.

         A more detailed description of timeSource can be found in
         IEEE Std 1588-2019.

         The following interpretation is placed on the value:
            0x10:  Atomic Clock,
            0x20:  GPS,
            0x30:  Terrestrial Radio,
            0x40:  PTP,
            0x50:  NTP,
            0x60:  Hand Set,
            0x90:  Other,
            0xA0:  Internal Oscillator "
    REFERENCE  "8.6.2.7, 8-2 and IEEE Std 1588-2019 7.6.2.8"
    SYNTAX      INTEGER {
            atomicClock(16),
            gps(32),
            terrestrialRadio(48),
            ptp(64),
            ntp(80),
            handSet(96),
            other(144),
            internalOscillator(160)
           }

Ieee8021ASV2PtpTimeInterval ::= TEXTUAL-CONVENTION
    STATUS current
    DESCRIPTION
        "The Ieee8021ASV2PtpTimeInterval type represents time intervals
         in units of 2^-16 ns. Positive or negative time
         intervals outside the maximum range of this data type shall
         be encoded as the largest positive and negative values of
         the data type respectively.
         For example: 2.5 ns is expressed as:
         (hex) 0x0000 0000 0002 8000"
    REFERENCE "6.4.3.3"
SYNTAX OCTET STRING (SIZE (8))

Ieee8021ASV2PtpPortIdentity ::= TEXTUAL-CONVENTION
STATUS current
DESCRIPTION
        "The Ieee8021ASV2PtpPortIdentity type identifies a port of a
```

```
         PTP Instance.
         The first 8 octets within this value specifies the
         ClockIdentity.
         The last 2 octets within this value specifies the port number."
    REFERENCE   "6.4.3.7"
SYNTAX OCTET STRING (SIZE (10))

Ieee8021ASV2ScaledNs ::= TEXTUAL-CONVENTION
STATUS current
DESCRIPTION
        "The Ieee8021ASV2ScaledNs type represents signed values of
         time and time interval in units of 2^-16 ns.
         Positive or negative values of time or time interval outside the
         maximum range of this data type are encoded as the largest
         positive or negative value of the data type, respectively.
         For example: -2.5 ns is expressed as:
         (hex) 0xFFFF FFFF FFFF FFFD 8000"
    REFERENCE   "6.4.3.1"
SYNTAX OCTET STRING (SIZE (12))

Ieee8021ASV2UScaledNs ::= TEXTUAL-CONVENTION
STATUS current
DESCRIPTION
        "The Ieee8021ASV2UScaledNs type represents unsigned values of
         time and time interval in units of 2^-16 ns.
         Positive or negative values of time or time interval outside
         the maximum range of this data type are encoded as the largest
         positive or negative value of the data type, respectively.
         For example: 2.5 ns is expressed as:
         (hex) 0x0000 0000 0000 0000 0002 8000"
    REFERENCE   "6.4.3.2"
SYNTAX OCTET STRING (SIZE (12))

Ieee8021ASV2PTPInstanceIdentifier ::= TEXTUAL-CONVENTION
DISPLAY-HINT "d"
STATUS current
DESCRIPTION
        "The entity of a single time-aware system that executes gPTP in
         one gPTP domain is called a PTP Instance. A time-aware system
         can contain multiple PTP Instances, which are each associated
         with a different gPTP domain. There are two types of
         PTP Instances, a PTP End Instance and a PTP Relay Instance."
    REFERENCE   "7.2.1"
SYNTAX Unsigned32

Ieee8021ASV2Timestamp ::= TEXTUAL-CONVENTION
STATUS current
DESCRIPTION
        "The value of Ieee8021ASV2Timestamp is equal to the remainder
         obtained upon dividing the respective timestamp, expressed
         in units of 2^-16 ns, by 2^48)."
    REFERENCE   "14.8.53, 14.16.25 and Table 14-9"
SYNTAX OCTET STRING (SIZE (6))

-- ================================================================
-- subtrees in the IEEE8021-AS-MIB
```

```
--
-- System Time-Aware Parameters/Capabilities for each instance of
-- gPTP domain. ieee8021AsV2InstanceListIndex that is of
-- ieee8021AsV2DomainIdentificationNumber object-type is used as Index.
--
-- ================================================================

-- ================================================================
-- The PTP Instance set is used to allow for dynamic creation and
-- deletion of PTP Instances and logical ports implementations that
-- support dynamic create/delete of devices.
-- ================================================================

ieee8021AsV2PtpInstanceTable   OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2PtpInstanceEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table is used to allow for dynamic creation and deletion
         of PTP Instances and logical ports implementations that support
         dynamic create/delete of devices."
    REFERENCE   "14.1"
    ::= { ieee8021AsV2MIBObjects 1 }

ieee8021AsV2PtpInstanceEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2PtpInstanceEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An entry that specifies a PTP Instance."
    INDEX { ieee8021AsV2PtpInstance }
    ::= { ieee8021AsV2PtpInstanceTable 1 }

Ieee8021AsV2PtpInstanceEntry ::=
  SEQUENCE {
    ieee8021AsV2PtpInstance            Ieee8021ASV2PTPInstanceIdentifier,
    ieee8021AsV2PtpInstanceName        SnmpAdminString,
    ieee8021AsV2PtpInstanceRowStatus   RowStatus
  }

ieee8021AsV2PtpInstance OBJECT-TYPE
    SYNTAX Ieee8021ASV2PTPInstanceIdentifier
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "The entity of a single time-aware system that executes gPTP in
         one gPTP domain is called a PTP Instance. A time-aware system can
         contain multiple PTP Instances, which are each associated with
         a different gPTP domain. There are two types of PTP Instances,
         a PTP End Instance and a PTP Relay Instance."
    REFERENCE "7.2.1"
    ::= { ieee8021AsV2PtpInstanceEntry 1 }

ieee8021AsV2PtpInstanceName OBJECT-TYPE
    SYNTAX SnmpAdminString
    MAX-ACCESS read-create
```

```
    STATUS current
    DESCRIPTION
    "Name for identification of a PTP Instance."
    DEFVAL { "" }
    ::= { ieee8021AsV2PtpInstanceEntry 2 }

ieee8021AsV2PtpInstanceRowStatus OBJECT-TYPE
    SYNTAX RowStatus
    MAX-ACCESS read-create
    STATUS current
    DESCRIPTION
        "This attribute is used to create and delete PTP Instances."
    REFERENCE "14.1"
    ::= { ieee8021AsV2PtpInstanceEntry 3 }

-- ================================================================
-- The Default data set represents native time capability of a time-
-- aware system and is consistent with respective IEEE 1588 data set.
-- ================================================================

ieee8021AsV2DefaultDSTable   OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2DefaultDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The Default Parameter Data Set represents the native capabilities
         of a PTP Instance, i.e., a PTP Relay Instance or a
         PTP End Instance."
    REFERENCE   "14.2"
    ::= { ieee8021AsV2MIBObjects 2 }

ieee8021AsV2DefaultDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2DefaultDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Default Data Set contains the profile Identifier for
         this instance of gPTP domain."
    INDEX { ieee8021AsV2PtpInstance }
    ::= { ieee8021AsV2DefaultDSTable 1 }

Ieee8021AsV2DefaultDSEntry ::=
  SEQUENCE {
    ieee8021AsV2DefaultDSClockIdentity          Ieee8021AsV2ClockIdentity,
    ieee8021AsV2DefaultDSNumberPorts            Unsigned32,
    ieee8021AsV2DefaultDSClockQualityClockClass Ieee8021AsV2ClockClassValue,
    ieee8021AsV2DefaultDSClockQualityClockAccuracy
Ieee8021AsV2ClockAccuracyValue,
    ieee8021AsV2DefaultDSClockQualityOffsetScaledLogVariance Unsigned32,
    ieee8021AsV2DefaultDSPriority1              Unsigned32,
    ieee8021AsV2DefaultDSPriority2              Unsigned32,
    ieee8021AsV2DefaultDSGmCapable              TruthValue,
    ieee8021AsV2DefaultDSCurrentUtcOffset       Integer32,
    ieee8021AsV2DefaultDSCurrentUtcOffsetValid  TruthValue,
    ieee8021AsV2DefaultDSLeap59                 TruthValue,
    ieee8021AsV2DefaultDSLeap61                 TruthValue,
```

```
    ieee8021AsV2DefaultDSTimeTraceable          TruthValue,
    ieee8021AsV2DefaultDSFrequencyTraceable     TruthValue,
    ieee8021AsV2DefaultDSPtpTimescale           TruthValue,
    ieee8021AsV2DefaultDSTimeSource             Ieee8021AsV2TimeSourceValue,
    ieee8021AsV2DefaultDSDomainNumber           Unsigned32,
    ieee8021AsV2DefaultDSSdoId                  Unsigned32,
    ieee8021AsV2DefaultDSExternalPortConfigurationEnabled TruthValue,
    ieee8021AsV2DefaultDSInstanceEnable         TruthValue
    }

ieee8021AsV2DefaultDSClockIdentity OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ClockIdentity
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the clockIdentity of the PTP Instance.
         The clockIdentity attribute shall be as specified in
         IEEE Std 1588-2019."
    REFERENCE   "14.2.2 and IEEE Std 1588-2019 7.5.2.2"
    ::= { ieee8021AsV2DefaultDSEntry 1 }


ieee8021AsV2DefaultDSNumberPorts OBJECT-TYPE
    SYNTAX      Unsigned32(1..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The number of ports of the PTP Instance. For an end
         station the value is 1."
    REFERENCE   "14.2.3"
    ::= { ieee8021AsV2DefaultDSEntry 2 }


ieee8021AsV2DefaultDSClockQualityClockClass OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ClockClassValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the clockClass of the PTP Instance, which
         implements the clockClass specifications of 8.6.2.2."
    REFERENCE   "14.2.4.2"
    ::= { ieee8021AsV2DefaultDSEntry 3 }


ieee8021AsV2DefaultDSClockQualityClockAccuracy OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ClockAccuracyValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the clockAccuracy of the PTP Instance, which
         implements the clockAccuracy specifications of 8.6.2.3."
    REFERENCE   "14.2.4.3"
    ::= { ieee8021AsV2DefaultDSEntry 4 }


ieee8021AsV2DefaultDSClockQualityOffsetScaledLogVariance OBJECT-TYPE
```

```
    SYNTAX      Unsigned32(0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the offsetScaledLogVariance of the PTP Instance,
         which implements the offsetScaledLogVariance specifications
         of 8.6.2.4."
    REFERENCE   "14.2.4.4"
    ::= { ieee8021AsV2DefaultDSEntry 5 }

ieee8021AsV2DefaultDSPriority1 OBJECT-TYPE
    SYNTAX      Unsigned32(0..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the priority1 attribute of the PTP Instance."
    REFERENCE   "14.2.5"
    ::= { ieee8021AsV2DefaultDSEntry 6 }


ieee8021AsV2DefaultDSPriority2 OBJECT-TYPE
    SYNTAX      Unsigned32(0..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the priority2 attribute of the PTP Instance."
    REFERENCE   "14.2.5"
    DEFVAL { 248 }
    ::= { ieee8021AsV2DefaultDSEntry 7 }


ieee8021AsV2DefaultDSGmCapable OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is TRUE (1) if the PTP Instance is capable of being a
         Grandmaster PTP Instance, and FALSE (2) if the PTP Instance is
         not capable of being a Grandmaster PTP Instance."
    REFERENCE   "14.2.7"
    ::= { ieee8021AsV2DefaultDSEntry 8 }


ieee8021AsV2DefaultDSCurrentUtcOffset OBJECT-TYPE
    SYNTAX      Integer32(-32768..32767)
    UNITS       "seconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the offset between TAI and UTC, relative to
         the ClockMaster entity of this PTP Instance. It is equal
         to the global variable sysCurrentUtcOffset.
         The value is in units of seconds.

         The default value is selected as follows:
             a)The value is the value obtained from a primary
```

```
                reference if the value is known at the time of
                initialization, else
              b)The value is the current IERS defined value of
                TAI - UTC (see IERS Bulletin C) when the PTP Instance
                is designed.currentUtcOffsetValid"
    REFERENCE   "14.2.8"
    ::= { ieee8021AsV2DefaultDSEntry 9 }


ieee8021AsV2DefaultDSCurrentUtcOffsetValid OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The default value is TRUE (1) if the value of
         ieee8021AsV2DefaultDSCurrentUtcOffset is known to be
         correct, otherwise it is set to FALSE (2)."
    REFERENCE   "14.2.9"
    ::= { ieee8021AsV2DefaultDSEntry 10 }


ieee8021AsV2DefaultDSLeap59 OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A TRUE (1) value indicates that the last minute of the
         current UTC day, relative to the ClockMaster entity of
         this PTP Instance, will contain 59 s. It is equal to the
         global variable sysLeap59.

         The value is selected as follows:
            a)The value is obtained from a primary reference if
              known at the time of initialization, else
            b)The value is set to FALSE (2)."
    REFERENCE   "14.2.10"
    ::= { ieee8021AsV2DefaultDSEntry 11 }


ieee8021AsV2DefaultDSLeap61 OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A TRUE (1) value indicates that the last minute of the
         current UTC day, relative to the ClockMaster entity of
         this PTP Instance, will contain 61 s. It is equal to the global
         variable sysLeap61.

         The value is selected as follows:
             a)The value is obtained from a primary reference if
               known at the time of initialization, else
             b)The value is set to FALSE (2)."
    REFERENCE   "14.2.11"
    ::= { ieee8021AsV2DefaultDSEntry 12 }
```

```
ieee8021AsV2DefaultDSTimeTraceable OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is set to TRUE (1) if the timescale and the value
         of currentUtcOffset, relative to the ClockMaster entity of
         this PTP Instance, are traceable to a primary reference
         standard; otherwise the value is set to FALSE (2).
         It is equal to the global variable sysTimeTraceable.

         The value is selected as follows:
            a)If the time and the value of currentUtcOffset are
              traceable to a primary reference standard at the time of
              initialization, the value is set to TRUE (1), else
            b)The value is set to FALSE (2)."
    REFERENCE   "14.2.12"
    ::= { ieee8021AsV2DefaultDSEntry 13 }


ieee8021AsV2DefaultDSFrequencyTraceable OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is set to TRUE (1) if the frequency determining the
         timescale of the ClockMaster Entity of this PTP Instance is
         traceable to a primary standard; otherwise the value is set
         to FALSE (2). It is equal to the global variable
         sysFrequencyTraceable.

         The value is selected as follows:
            a)If the frequency is traceable to a primary reference
              standard at the time of initialization the value is set
              to TRUE (1), else
            b)The value is set to FALSE (2)."
    REFERENCE   "14.2.13"
    ::= { ieee8021AsV2DefaultDSEntry 14 }

ieee8021AsV2DefaultDSPtpTimescale OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is set to TRUE (1) if the clock timescale of the
         ClockMaster Entity of this PTP Instance is PTP and
         FALSE (2) otherwise."
    REFERENCE   "14.2.14"
    ::= { ieee8021AsV2DefaultDSEntry 15 }

ieee8021AsV2DefaultDSTimeSource OBJECT-TYPE
    SYNTAX      Ieee8021AsV2TimeSourceValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
```

```
        "The value is the source of time used by the
         Grandmaster PTP Instance clock."
    REFERENCE   "14.2.15"
    ::= { ieee8021AsV2DefaultDSEntry 16 }

ieee8021AsV2DefaultDSDomainNumber OBJECT-TYPE
    SYNTAX      Unsigned32(0..127)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the domain number of the gPTP domain for this
         instance of gPTP supported by the time-aware system."
    REFERENCE   "14.2.16"
    ::= { ieee8021AsV2DefaultDSEntry 17 }

ieee8021AsV2DefaultDSSdoId OBJECT-TYPE
    SYNTAX      Unsigned32(0..4095)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the sdoId of the gPTP domain for this instance
         of gPTP supported by the time-aware system.
         For compatibility with IEEE Std 1588, the range of the
         managed object is limited to 12 bits; in addition, only the
         single value 0x100 is specified in this standard for the
         gPTP domain of a PTP Instance."
    REFERENCE   "14.2.17"
    ::= { ieee8021AsV2DefaultDSEntry 18 }

ieee8021AsV2DefaultDSExternalPortConfigurationEnabled OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the externalPortConfigurationEnabled attribute
         of the PTP Instance."
    REFERENCE   "14.2.18"
    ::= { ieee8021AsV2DefaultDSEntry 19 }

ieee8021AsV2DefaultDSInstanceEnable OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the instanceEnable attribute of the PTP Instance."
    REFERENCE   "14.2.19"
    ::= { ieee8021AsV2DefaultDSEntry 20 }

-- ================================================================
-- The Current data set represents this system's topological location
-- relative to the known Grandmaster PTP Instance.
-- This data set is consistent with respective IEEE 1588 data set.
-- ================================================================

ieee8021AsV2CurrentDSTable      OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2CurrentDSEntry
```

```
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The Current Parameter Data Set represents the position of a local
        system and other information, relative to the
        Grandmaster PTP Instance."
    REFERENCE   "14.3"
    ::= { ieee8021AsV2MIBObjects 3 }

ieee8021AsV2CurrentDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2CurrentDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Current Data Set for a specific PTP Instance."
    INDEX { ieee8021AsV2PtpInstance }
    ::= { ieee8021AsV2CurrentDSTable 1 }

Ieee8021AsV2CurrentDSEntry ::=
  SEQUENCE {
    ieee8021AsV2CurrentDSStepsRemoved                   Unsigned32,
    ieee8021AsV2CurrentDSOffsetFromMaster
Ieee8021ASV2PtpTimeInterval,
    ieee8021AsV2CurrentDSLastGmPhaseChange             Ieee8021ASV2ScaledNs,
    ieee8021AsV2CurrentDSLastGmFreqChange               Float64TC,
    ieee8021AsV2CurrentDSGmTimebaseIndicator            Unsigned32,
    ieee8021AsV2CurrentDSGmChangeCount                  Counter32,
    ieee8021AsV2CurrentDSTimeOfLastGmChangeEvent        TimeStamp,
    ieee8021AsV2CurrentDSTimeOfLastGmPhaseChangeEvent   TimeStamp,
    ieee8021AsV2CurrentDSTimeOfLastGmFreqChangeEvent    TimeStamp
    }

ieee8021AsV2CurrentDSStepsRemoved OBJECT-TYPE
    SYNTAX      Unsigned32(0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the number of gPTP communication paths
         traversed between this PTP Instance and the
         Grandmaster PTP Instance, as specified in 10.3.3."
    REFERENCE   "14.3.2"
    ::= { ieee8021AsV2CurrentDSEntry 1 }


ieee8021AsV2CurrentDSOffsetFromMaster OBJECT-TYPE
    SYNTAX      Ieee8021ASV2PtpTimeInterval
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is an implementation-specific representation of
         the current value of the time difference between a slave
         and the Grandmaster Clock, as computed by the slave, and
         as specified in 10.2.10."
    REFERENCE   "14.3.3"
    ::= { ieee8021AsV2CurrentDSEntry 2 }
```

```
ieee8021AsV2CurrentDSLastGmPhaseChange OBJECT-TYPE
    SYNTAX      Ieee8021ASV2ScaledNs
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the phase change that occurred on the most
         recent change in either Grandmaster PTP Instance or
         gmTimeBaseIndicator."
    REFERENCE   "14.3.4"
    ::= { ieee8021AsV2CurrentDSEntry 3 }

ieee8021AsV2CurrentDSLastGmFreqChange OBJECT-TYPE
    SYNTAX      Float64TC
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the frequency change that occurred on the most
         recent change in either Grandmaster PTP Instance or
         gmTimeBaseIndicator."
    REFERENCE   "14.3.5"
    ::= { ieee8021AsV2CurrentDSEntry 4 }

ieee8021AsV2CurrentDSGmTimebaseIndicator OBJECT-TYPE
    SYNTAX      Unsigned32(0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the value of timeBaseIndicator of the
         current Grandmaster PTP Instance."
    REFERENCE   "14.3.6"
    ::= { ieee8021AsV2CurrentDSEntry 5 }

ieee8021AsV2CurrentDSGmChangeCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This statistics counter tracks the number of times the
         Grandmaster PTP Instance has changed in a gPTP domain.
         This counter increments when the PortAnnounceInformation
         state machine enters the SUPERIOR_MASTER_PORT state or
         the INFERIOR_MASTER_OR_OTHER_PORT state."
    REFERENCE   "14.3.7"
    ::= { ieee8021AsV2CurrentDSEntry 6 }

ieee8021AsV2CurrentDSTimeOfLastGmChangeEvent OBJECT-TYPE
    SYNTAX      TimeStamp
    UNITS       "0.01 seconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This timestamp takes the value of sysUpTime (see RFC3418) when
         the most recent Grandmaster PTP Instance change occurred in
         a gPTP domain.
         This timestamp is updated when the PortAnnounceInformation
         state machine enters the SUPERIOR_MASTER_PORT state or the
```

```
          INFERIOR_MASTER_OR_OTHER_PORT state."
    REFERENCE   "14.3.8"
    ::= { ieee8021AsV2CurrentDSEntry 7 }


ieee8021AsV2CurrentDSTimeOfLastGmPhaseChangeEvent OBJECT-TYPE
    SYNTAX      TimeStamp
    UNITS       "0.01 seconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This timestamp takes the value of sysUpTime (see RFC3418)
         when the most recent change in Grandmaster Clock phase
         occurred, due to a change of either the
         Grandmaster PTP Instance or the Grandmaster Clock
         time base. This timestamp is updated when one of the
         following occurs:
            a)The PortAnnounceInformation state machine enters the
              SUPERIOR_MASTER_PORT state or the
              INFERIOR_MASTER_OR_OTHER_PORT state, or
            b)The gmTimebaseIndicator managed object changes and the
              lastGmPhaseChange field of the most recently received
              Follow_Up information TLV is nonzero."
    REFERENCE   "14.3.9"
    ::= { ieee8021AsV2CurrentDSEntry 8 }

ieee8021AsV2CurrentDSTimeOfLastGmFreqChangeEvent OBJECT-TYPE
    SYNTAX      TimeStamp
    UNITS       "0.01 seconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This timestamp takes the value of sysUpTime (see RFC3418)
         when the most recent change in Grandmaster Clock frequency
         occurred, due to a change of either the Grandmaster PTP
         Instance or the Grandmaster Clock time base. This timestamp
         is updated when one of the following occurs:
            a)The PortAnnounceInformation state machine enters the
              SUPERIOR_MASTER_PORT state or the
              INFERIOR_MASTER_OR_OTHER_PORT state, or
            b)The gmTimebaseIndicator managed object changes and the
              lastGmFreqChange field of the most recently received
              Follow_Up information TLV is nonzero."
    REFERENCE   "14.3.10"
    ::= { ieee8021AsV2CurrentDSEntry 9 }

-- ================================================================
-- The Parent data set represents the upstream (toward
-- Grandmaster PTP Instance) system's timing parameters as measured
-- at this system.
-- This data set is consistent with the respective IEEE 1588 data set.
-- ================================================================
ieee8021AsV2ParentDSTable     OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2ParentDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
```

```
    DESCRIPTION
        "The Parent Parameter Data Set represents capabilities of the
         upstream system, toward the Grandmaster PTP Instance, as
         measured at a local system."
    REFERENCE   "14.4"
    ::= { ieee8021AsV2MIBObjects 4 }

ieee8021AsV2ParentDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ParentDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Parent Data Set for a specific PTP Instance."
    INDEX { ieee8021AsV2PtpInstance }
    ::= { ieee8021AsV2ParentDSTable 1 }

Ieee8021AsV2ParentDSEntry ::=
  SEQUENCE {
    ieee8021AsV2ParentDSParentClockIdentity     Ieee8021AsV2ClockIdentity,
    ieee8021AsV2ParentDSParentPortNumber        Unsigned32,
    ieee8021AsV2ParentDSCumulativeRateRatio      Integer32,
    ieee8021AsV2ParentDSGrandmasterIdentity     Ieee8021AsV2ClockIdentity,
    ieee8021AsV2ParentDSGrandmasterClockQualityclockClass
                                                Ieee8021AsV2ClockClassValue,
    ieee8021AsV2ParentDSGrandmasterClockQualityclockAccuracy
                                               Ieee8021AsV2ClockAccuracyValue,
    ieee8021AsV2ParentDSGrandmasterClockQualityoffsetScaledLogVar
                                                Unsigned32,
    ieee8021AsV2ParentDSGrandmasterPriority1    Unsigned32,
    ieee8021AsV2ParentDSGrandmasterPriority2    Unsigned32
    }

ieee8021AsV2ParentDSParentClockIdentity OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ClockIdentity
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the first of the parentPortIdentity attribute
         for this instance of gPTP domain, which is a set made of
         Ieee8021AsV2ClockIdentity and portNumber."
    REFERENCE   "14.4.2"
    ::= { ieee8021AsV2ParentDSEntry 1 }

ieee8021AsV2ParentDSParentPortNumber OBJECT-TYPE
    SYNTAX      Unsigned32(0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the second of the parentPortIdentity attribute
         for this instance of gPTP domain, which is a set made of
         Ieee8021AsV2ClockIdentity and portNumber."
    REFERENCE   "14.4.2"
    ::= { ieee8021AsV2ParentDSEntry 2 }

ieee8021AsV2ParentDSCumulativeRateRatio OBJECT-TYPE
    SYNTAX      Integer32
```

```
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is an estimate of the ratio of the frequency of
         the Grandmaster Clock to the frequency of the LocalClock
         entity of this PTP Instance.
         CumulativeRateRatio is expressed as the fractional
         frequency offset multiplied by 2^41, i.e., the quantity
         (rateRatio - 1.0)(2^41), where rateRatio is computed by
         the PortSyncSyncReceive state machine."
    REFERENCE   "14.4.3"
   ::= { ieee8021AsV2ParentDSEntry 3 }

ieee8021AsV2ParentDSGrandmasterIdentity OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ClockIdentity
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the clockIdentity attribute of the
         Grandmaster PTP Instance."
    REFERENCE   "14.4.4"
    ::= { ieee8021AsV2ParentDSEntry 4 }

ieee8021AsV2ParentDSGrandmasterClockQualityclockClass OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ClockClassValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the clockClass of the Grandmaster PTP Instance."
    REFERENCE   "14.4.5.2"
    ::= { ieee8021AsV2ParentDSEntry 5 }

ieee8021AsV2ParentDSGrandmasterClockQualityclockAccuracy OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ClockAccuracyValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the clockAccuracy of the Grandmaster PTP Instance."
    REFERENCE   "14.4.5.3"
    ::= { ieee8021AsV2ParentDSEntry 6 }

ieee8021AsV2ParentDSGrandmasterClockQualityoffsetScaledLogVar
                OBJECT-TYPE
    SYNTAX      Unsigned32(0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the offsetScaledLogVariance of the
         Grandmaster PTP Instance."
    REFERENCE   "14.4.5.4"
    ::= { ieee8021AsV2ParentDSEntry 7 }

ieee8021AsV2ParentDSGrandmasterPriority1 OBJECT-TYPE
    SYNTAX      Unsigned32(0..255)
    MAX-ACCESS  read-only
    STATUS      current
```

```
    DESCRIPTION
        "The value is the priority1 attribute of the
         Grandmaster PTP Instance."
    REFERENCE   "14.4.6"
    ::= { ieee8021AsV2ParentDSEntry 8 }

ieee8021AsV2ParentDSGrandmasterPriority2 OBJECT-TYPE
    SYNTAX      Unsigned32(0..255)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the priority2 attribute of the
         Grandmaster PTP Instance."
    REFERENCE   "14.4.7"
    ::= { ieee8021AsV2ParentDSEntry 9 }

-- ================================================================
-- TimePropertiesDS represents the Grandmaster PTP Instance's
-- parameters, as measured at this system and are derived from
-- IEEE 802.1AS protocol.
-- This data set is consistent with respective IEEE 1588 data set.
-- ================================================================
ieee8021AsV2TimePropertiesDSTable    OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2TimePropertiesDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The Time Properties Parameter Data Set represents capabilities of
         the Grandmaster PTP Instance, as measured at a local system"
    REFERENCE   "14.5"
      ::= { ieee8021AsV2MIBObjects 5 }

ieee8021AsV2TimePropertiesDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2TimePropertiesDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Time Properties Data Set contains the profile Identifier for
         this instance of gPTP domain."
    INDEX { ieee8021AsV2PtpInstance }
    ::= { ieee8021AsV2TimePropertiesDSTable 1 }

Ieee8021AsV2TimePropertiesDSEntry ::=
  SEQUENCE {
    ieee8021AsV2TimePropertiesDSCurrentUtcOffset      Integer32,
    ieee8021AsV2TimePropertiesDSCurrentUtcOffsetValid TruthValue,
    ieee8021AsV2TimePropertiesDSLeap59                TruthValue,
    ieee8021AsV2TimePropertiesDSLeap61                TruthValue,
    ieee8021AsV2TimePropertiesDSTimeTraceable         TruthValue,
    ieee8021AsV2TimePropertiesDSFrequencyTraceable    TruthValue,
    ieee8021AsV2TimePropertiesDSPtpTimescale          TruthValue,
    ieee8021AsV2TimePropertiesDSTimeSource
Ieee8021AsV2TimeSourceValue
    }

ieee8021AsV2TimePropertiesDSCurrentUtcOffset OBJECT-TYPE
```

```
    SYNTAX      Integer32(-32768..32767)
    UNITS       "seconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is currentUtcOffset for the current
         Grandmaster PTP Instance. It is equal to the value  of
         the global variable currentUtcOffset. The value is in
         units of seconds."
    REFERENCE   "14.5.2"
    ::= { ieee8021AsV2TimePropertiesDSEntry 1 }

ieee8021AsV2TimePropertiesDSCurrentUtcOffsetValid OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is currentUtcOffsetValid for the current
         Grandmaster PTP Instance. It is equal to the global
         variable currentUtcOffsetValid."
    REFERENCE   "14.5.3"
    ::= { ieee8021AsV2TimePropertiesDSEntry 2 }

ieee8021AsV2TimePropertiesDSLeap59 OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is leap59 for the current Grandmaster PTP Instance.
         It is equal to the global variable leap59."
    REFERENCE   "14.5.4"
    ::= { ieee8021AsV2TimePropertiesDSEntry 3 }

ieee8021AsV2TimePropertiesDSLeap61 OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is leap61 for the current Grandmaster PTP Instance.
         It is equal to the global variable leap61."
    REFERENCE   "14.5.5"
    ::= { ieee8021AsV2TimePropertiesDSEntry 4 }

ieee8021AsV2TimePropertiesDSTimeTraceable OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is timeTraceable for the current
         Grandmaster PTP Instance. It is equal to the global
         variable timeTraceable."
    REFERENCE   "14.5.6"
    ::= { ieee8021AsV2TimePropertiesDSEntry 5 }

ieee8021AsV2TimePropertiesDSFrequencyTraceable OBJECT-TYPE
    SYNTAX      TruthValue
```

```
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is frequencyTraceable for the current
         Grandmaster PTP Instance. It is equal to the global
         variable frequencyTraceable."
    REFERENCE   "14.5.7"
    ::= { ieee8021AsV2TimePropertiesDSEntry 6 }

ieee8021AsV2TimePropertiesDSPtpTimescale OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is ptpTimescale for the current
         Grandmaster PTP Instance."
    REFERENCE   "14.5.8"
    ::= { ieee8021AsV2TimePropertiesDSEntry 7 }

ieee8021AsV2TimePropertiesDSTimeSource OBJECT-TYPE
    SYNTAX      Ieee8021AsV2TimeSourceValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is timeSource for the current
         Grandmaster PTP Instance. It is equal to the global
         variable timeSource"
    REFERENCE   "14.5.9"
    ::= { ieee8021AsV2TimePropertiesDSEntry 8 }

-- ============================================================
-- The Path Trace Parameter Data set represents the current path
-- trace information available at the PTP Instance.
-- ============================================================

ieee8021AsV2PathTraceDSTable    OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2PathTraceDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The pathTraceDS represents the current path trace information
         available at the PTP Instance."
    REFERENCE   "14.6"
    ::= { ieee8021AsV2MIBObjects 6 }

ieee8021AsV2PathTraceDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2PathTraceDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Path Trace Data Set for a specific PTP Instance."
    INDEX { ieee8021AsV2PtpInstance }
    ::= { ieee8021AsV2PathTraceDSTable 1 }

Ieee8021AsV2PathTraceDSEntry ::=
SEQUENCE {
```

```
    ieee8021AsV2PathTraceDSEnable                    TruthValue
    }

ieee8021AsV2PathTraceDSEnable OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is TRUE.
         NOTE: This member is included for compatibility with
         IEEE Std 1588. In IEEE Std 1588, the path trace mechanism
         is optional, and the pathTraceDS.enable member is
         configurable (its value in IEEE Std 1588 is TRUE (1) or
         FALSE (2), depending on whether the path trace mechanism is
         operational or not operational, respectively. However, the
         pathTrace mechanism is mandatory in this standard, and the
         value of enable is always TRUE (1)."
    REFERENCE   "14.6.3"
    ::= { ieee8021AsV2PathTraceDSEntry 2 }

ieee8021AsV2PathTraceDSArrayTable    OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2PathTraceDSArrayEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object contains an array of ClockIdentity values contained
         in the pathTrace array, which represents the current path trace
         information, and which is carried in the path trace TLV per
         PTP Instance."
    REFERENCE   "14.6.2"
    ::= { ieee8021AsV2MIBObjects 7 }

ieee8021AsV2PathTraceDSArrayEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2PathTraceDSArrayEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Path Trace Data Set Table Array for a specific PTP Instance."
    INDEX { ieee8021AsV2PtpInstance, ieee8021AsV2PathTraceDSArrayIndex }
    ::= { ieee8021AsV2PathTraceDSArrayTable 1 }

Ieee8021AsV2PathTraceDSArrayEntry ::=
  SEQUENCE {
    ieee8021AsV2PathTraceDSArrayIndex  Unsigned32,
    ieee8021AsV2PathTraceDSArrayList      Ieee8021AsV2ClockIdentity
    }

ieee8021AsV2PathTraceDSArrayIndex OBJECT-TYPE
    SYNTAX      Unsigned32 (1..179)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Index of the Path Trace Data Set Array."
    REFERENCE   "10.3.9.23"
    ::= { ieee8021AsV2PathTraceDSArrayEntry 1 }
```

```
ieee8021AsV2PathTraceDSArrayList OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ClockIdentity
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the array of ClockIdentity values contained
         in the pathTrace array, which represents the current
         path trace information, and which is carried in the path
         trace TLV."
    REFERENCE   "14.6.2"
    ::= { ieee8021AsV2PathTraceDSArrayEntry 2 }


-- ****************************************************************
-- The Acceptable Master Table Parameter Data Set represents the
-- acceptable master table used when an EPON port is used by a PTP
-- Instance of a time-aware system.
-- ****************************************************************

ieee8021AsV2AcceptableMasterTableDSTable    OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2AcceptableMasterTableDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The acceptableMasterTableDS represents the acceptable master
         table used when an EPON port is used by a PTP Instance of a
         time-aware system."
    REFERENCE   "14.7"
::= { ieee8021AsV2MIBObjects 8 }

ieee8021AsV2AcceptableMasterTableDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2AcceptableMasterTableDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Acceptable Master Table Data Set represents the acceptable master
         table used when an EPON port is used by a PTP Instance of a
         time-aware system."
    INDEX { ieee8021AsV2PtpInstance }
    ::= { ieee8021AsV2AcceptableMasterTableDSTable 1 }

Ieee8021AsV2AcceptableMasterTableDSEntry ::=
  SEQUENCE {
                ieee8021AsV2AcceptableMasterTableDSMaxTableSize
Unsigned32,
                ieee8021AsV2AcceptableMasterTableDSActualTableSize
Unsigned32
    }

ieee8021AsV2AcceptableMasterTableDSMaxTableSize  OBJECT-TYPE
    SYNTAX      Unsigned32(0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the maximum size of the AcceptableMasterTable.
         It is equal to the maxTableSize member of the
```

```
         AcceptableMasterTable structure."
    REFERENCE   "14.7.2"
    ::= { ieee8021AsV2AcceptableMasterTableDSEntry 1 }

ieee8021AsV2AcceptableMasterTableDSActualTableSize  OBJECT-TYPE
    SYNTAX      Unsigned32(0..65535)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the actual size of the AcceptableMasterTable.
         It is equal to the actualTableSize member of the
         AcceptableMasterTable structure, i.e., the current number
         of elements in the acceptable master array. The actual
         table size is less than or equal to the max table size."
    REFERENCE   "14.7.3"
    ::= { ieee8021AsV2AcceptableMasterTableDSEntry 2 }

ieee8021AsV2AcceptableMasterTableDSArrayTable    OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2AcceptableMasterTableDSArrayEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The acceptableMasterTableDS represents the acceptable master table
         used when an EPON port is used by a PTP Instance of a time-aware
         system."
    REFERENCE   "14.7"
::= { ieee8021AsV2MIBObjects 9 }

ieee8021AsV2AcceptableMasterTableDSArrayEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2AcceptableMasterTableDSArrayEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Each element of this array is an AcceptableMaster structure per
         PTP Instance."
    INDEX { ieee8021AsV2PtpInstance,
ieee8021AsV2AcceptableMasterTableDSArrayIndex }
    ::= { ieee8021AsV2AcceptableMasterTableDSArrayTable 1 }

Ieee8021AsV2AcceptableMasterTableDSArrayEntry ::=
  SEQUENCE {
    ieee8021AsV2AcceptableMasterTableDSArrayIndex               Unsigned32,
    ieee8021AsV2AcceptableMasterTableDSArrayPortIdentity
Ieee8021ASV2PtpPortIdentity,
    ieee8021AsV2AcceptableMasterTableDSArrayAlternatePriority1
Unsigned32
    }

ieee8021AsV2AcceptableMasterTableDSArrayIndex  OBJECT-TYPE
    SYNTAX      Unsigned32(0..65535)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Index of the Acceptable Master Table Data Set Array."
    REFERENCE   "14.7.4"
    ::= { ieee8021AsV2AcceptableMasterTableDSArrayEntry 1 }
```

```
ieee8021AsV2AcceptableMasterTableDSArrayPortIdentity  OBJECT-TYPE
    SYNTAX      Ieee8021ASV2PtpPortIdentity
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The acceptablePortIdentity member is the PortIdentity of
         an acceptable master port."
    REFERENCE   "14.7.4"
    ::= { ieee8021AsV2AcceptableMasterTableDSArrayEntry 2 }

ieee8021AsV2AcceptableMasterTableDSArrayAlternatePriority1  OBJECT-TYPE
    SYNTAX      Unsigned32(0..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The alternatePriority1 member contains an alternate value
         for the priority1 attribute of the acceptable master port."
    REFERENCE   "14.7.4"
    ::= { ieee8021AsV2AcceptableMasterTableDSArrayEntry 3 }

-- ============================================================
-- The Port Parameter Data Set (portDS) represents PTP Port
-- time-aware capabilities for a PTP Instance of a time-aware
-- system.
-- ============================================================
ieee8021AsV2PortDSTable   OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2PortDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "For the single PTP Port of a PTP End Instance and for each
         PTP Port of a PTP Relay Instance , the portDS is maintained
         as the basis for making protocol decisions and providing
         values for message fields.
         The number of such data sets is the same as the value of
         defaultDS.numberPorts."
    REFERENCE   "14.8"
    ::= { ieee8021AsV2MIBObjects 10 }

ieee8021AsV2PortDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2PortDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects pertaining to a PTP Port of a PTP Instance."
    INDEX { ieee8021AsV2PtpInstance,
            ieee8021AsV2PortDSIndex }
    ::= { ieee8021AsV2PortDSTable 1 }

Ieee8021AsV2PortDSEntry ::=
     SEQUENCE {
         ieee8021AsV2BridgeBasePort          IEEE8021BridgePortNumber,
         ieee8021AsV2PortDSIndex         InterfaceIndexOrZero,
         ieee8021AsV2PortDSClockIdentity
Ieee8021AsV2ClockIdentity,
```

```
        ieee8021AsV2PortDSPortNumber                  Unsigned32,
        ieee8021AsV2PortDSPortState                    INTEGER,
        ieee8021AsV2PortDSPtpPortEnabled              TruthValue,
        ieee8021AsV2PortDSDelayMechanism              INTEGER,
        ieee8021AsV2PortDSIsMeasuringDelay             TruthValue,
        ieee8021AsV2PortDSAsCapable                    TruthValue,
        ieee8021AsV2PortDSMeanLinkDelay
Ieee8021ASV2PtpTimeInterval,
        ieee8021AsV2PortDSMeanLinkDelayThresh
Ieee8021ASV2PtpTimeInterval,
        ieee8021AsV2PortDSDelayAsym
Ieee8021ASV2PtpTimeInterval,
        ieee8021AsV2PortDSNbrRateRatio            Integer32,
        ieee8021AsV2PortDSInitialLogAnnounceInterval   Integer32,
        ieee8021AsV2PortDSCurrentLogAnnounceInterval   Integer32,
        ieee8021AsV2PortDSUseMgtSettableLogAnnounceInterval    TruthValue,
        ieee8021AsV2PortDSMgtSettableLogAnnounceInterval       Integer32,
        ieee8021AsV2PortDSAnnounceReceiptTimeout       Unsigned32,
        ieee8021AsV2PortDSInitialLogSyncInterval       Integer32,
        ieee8021AsV2PortDSCurrentLogSyncInterval       Integer32,
        ieee8021AsV2PortDSUseMgtSettableLogSyncInterval        TruthValue,
        ieee8021AsV2PortDSMgtSettableLogSyncInterval           Integer32,
        ieee8021AsV2PortDSSyncReceiptTimeout           Unsigned32,
        ieee8021AsV2PortDSSyncReceiptTimeoutTimeInterval
Ieee8021ASV2UScaledNs,
        ieee8021AsV2PortDSInitialLogPdelayReqInterval Integer32,
        ieee8021AsV2PortDSCurrentLogPdelayReqInterval Integer32,
        ieee8021AsV2PortDSUseMgtSettableLogPdelayReqInterval    TruthValue,
        ieee8021AsV2PortDSMgtSettableLogPdelayReqInterval       Integer32,
        ieee8021AsV2PortDSInitialLogGptpCapableMessageInterval
Integer32,
        ieee8021AsV2PortDSCurrentLogGptpCapableMessageInterval
Integer32,
        ieee8021AsV2PortDSUseMgtSettableLogGptpCapableMessageInterval
TruthValue,
        ieee8021AsV2PortDSMgtSettableLogGptpCapableMessageInterval
Integer32,
        ieee8021AsV2PortDSInitialComputeNbrRateRatio     TruthValue,
        ieee8021AsV2PortDSCurrentComputeNbrRateRatio     TruthValue,
        ieee8021AsV2PortDSUseMgtSettableComputeNbrRateRatio     TruthValue,
        ieee8021AsV2PortDSMgtSettableComputeNbrRateRatio     TruthValue,
        ieee8021AsV2PortDSInitialComputeMeanLinkDelay     TruthValue,
        ieee8021AsV2PortDSCurrentComputeMeanLinkDelay     TruthValue,
       ieee8021AsV2PortDSUseMgtSettableComputeMeanLinkDelay    TruthValue,
        ieee8021AsV2PortDSMgtSettableComputeMeanLinkDelay     TruthValue,
        ieee8021AsV2PortDSAllowedLostRsp        Unsigned32,
        ieee8021AsV2PortDSAllowedFaults               Unsigned32,
        ieee8021AsV2PortDSGPtpCapableReceiptTimeout     Unsigned32,
        ieee8021AsV2PortDSVersionNumber               Unsigned32,
        ieee8021AsV2PortDSNup                        Float64TC,
        ieee8021AsV2PortDSNdown                      Float64TC,
        ieee8021AsV2PortDSOneStepTxOper                TruthValue,
        ieee8021AsV2PortDSOneStepReceive               TruthValue,
        ieee8021AsV2PortDSOneStepTransmit              TruthValue,
        ieee8021AsV2PortDSInitialOneStepTxOper         TruthValue,
        ieee8021AsV2PortDSCurrentOneStepTxOper         TruthValue,
```

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        ieee8021AsV2PortDSUseMgtSettableOneStepTxOper         TruthValue,
        ieee8021AsV2PortDSMgtSettableOneStepTxOper            TruthValue,
        ieee8021AsV2PortDSSyncLocked                    TruthValue,
        ieee8021AsV2PortDSPdelayTruncTST1            Ieee8021ASV2Timestamp,
        ieee8021AsV2PortDSPdelayTruncTST2            Ieee8021ASV2Timestamp,
        ieee8021AsV2PortDSPdelayTruncTST3            Ieee8021ASV2Timestamp,
        ieee8021AsV2PortDSPdelayTruncTST4            Ieee8021ASV2Timestamp,
        ieee8021AsV2PortDSMinorVersionNumber           Unsigned32
    }

ieee8021AsV2BridgeBasePort OBJECT-TYPE
    SYNTAX      IEEE8021BridgePortNumber
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object identifies the bridge port number of the port for
         which this entry contains bridge management information.
         For end stations, this port number shall be (1)."
    ::= { ieee8021AsV2PortDSEntry 1 }

ieee8021AsV2PortDSIndex OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object identifies the gPTP interface group within
         the system for which this entry contains information. It
         is the value of the instance of the IfIndex object,
         defined in the IF-MIB, for the gPTP interface group
         corresponding to this port, or the value 0 if the port
         has not been bound to an underlying frame source and
         sink.

         For a given media port of a Bridge or an end station,
         there can be one or more PTP Port, and depends whether
         a media port supports point to point link (e.g. IEEE
         802.3 Ethernet) or point to multi-point (e.g. CSN, IEEE
         802.3 EPON) links on the media port."
    ::= { ieee8021AsV2PortDSEntry 2 }

ieee8021AsV2PortDSClockIdentity OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ClockIdentity
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the first of the portIdentity attribute
         of the local port, which is a set made of
         Ieee8021AsV2ClockIdentity and portNumber."
    REFERENCE   "14.8.2"
    ::= { ieee8021AsV2PortDSEntry 3 }


ieee8021AsV2PortDSPortNumber OBJECT-TYPE
    SYNTAX      Unsigned32(0..65535)
    MAX-ACCESS  read-only
    STATUS      current
```

```
    DESCRIPTION
        "The value is the second of the portIdentity attribute
         of the local port, which is a set made of
         Ieee8021AsV2ClockIdentity and portNumber."
    REFERENCE   "14.8.2"
    ::= { ieee8021AsV2PortDSEntry 4 }

ieee8021AsV2PortDSPortState OBJECT-TYPE
    SYNTAX      INTEGER {
            disabledPort(3),
            masterPort(6),
            passivePort(7),
            slavePort(9)
           }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the value of the PTP Port state of this
         PTP Port (see Table 10-2) and is taken from the enumeration
         in Table 14-7. It is equal to the value of the global
         variable selectedState."
    REFERENCE   "14.8.3"
    ::= { ieee8021AsV2PortDSEntry 5 }

ieee8021AsV2PortDSPtpPortEnabled OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the Boolean ptpPortEnabled.
         Setting this managed object causes the Boolean ptpPortEnabled
         to have the same value."
    REFERENCE   "14.8.4"
    ::= { ieee8021AsV2PortDSEntry 6 }

ieee8021AsV2PortDSDelayMechanism OBJECT-TYPE
    SYNTAX      INTEGER {
            p2p(2),
            commonp2p(3),
            special(4)
           }
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value indicates the mechanism for measuring mean
         propagation delay and neighbor rate ratio on the link
         attached to this PTP Port, and is taken from the enumeration
         in Table 14-8. If the domain number is not 0, portDS.delay
         mechanism must not be P2P."
    REFERENCE   "14.8.5"
    ::= { ieee8021AsV2PortDSEntry 7 }

ieee8021AsV2PortDSIsMeasuringDelay OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
```

```
    DESCRIPTION
        "The value is equal to the value of the Boolean isMeasuringDelay."
    REFERENCE   "14.8.6"
    ::= { ieee8021AsV2PortDSEntry 8 }


ieee8021AsV2PortDSAsCapable OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the Boolean asCapable."
    REFERENCE   "14.8.7"
    ::= { ieee8021AsV2PortDSEntry 9 }

ieee8021AsV2PortDSMeanLinkDelay OBJECT-TYPE
    SYNTAX      Ieee8021ASV2PtpTimeInterval
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-PTP Port global
         variable meanLinkDelay. It is an estimate of the current
         one-way propagation time on the link attached to this
         PTP Port, measured as specified for the respective medium.
         The value is zero for PTP Port attached to IEEE 802.3
         EPON links and for the master port of an IEEE 802.11 link,
         because one-way propagation delay is not measured on the
         latter and not directly measured on the former.
         NOTE: The underlying per-PTP Port, global variable
         meanLinkDelay is of type UScaledNS, which is a 96-Bit value.
         meanLinkDelay values that are larger than the maximum value
         that can be represented by the TimeInterval data type, i.e.,
         0xFFFF FFFF FFFF FFFF (where the units are 2 sup -16 ns), used
         for this managed object are set to this largest value."
    REFERENCE   "14.8.8"
    ::= { ieee8021AsV2PortDSEntry 10 }


ieee8021AsV2PortDSMeanLinkDelayThresh OBJECT-TYPE
    SYNTAX      Ieee8021ASV2PtpTimeInterval
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-PTP Port global
         variable meanLinkDelayThresh. It is the propagation time
         threshold above which a PTP Port is considered not capable of
         participating in the IEEE 802.1AS protocol.
         Setting this managed object causes the per PTP Port global
         variable meanLinkDelayThresh to have the same value.
         NOTE: The underlying per-PTP Port, global variable
         meanLinkDelayThresh is of type UScaledNS, which is a 96-Bit
         value. meanLinkDelayThresh values that are larger than the
         maximum value that can be represented by the TimeInterval
         data type, i.e., 0xFFFF FFFF FFFF FFFF (where the units are
         2 sup -16 ns), used for this managed object are set to this
         largest value."
```

```
    REFERENCE   "14.8.9"
    ::= { ieee8021AsV2PortDSEntry 11 }

ieee8021AsV2PortDSDelayAsym OBJECT-TYPE
    SYNTAX      Ieee8021ASV2PtpTimeInterval
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the asymmetry in the propagation delay on
         the link attached to this PTP Port relative to the
         Grandmaster Clock time base, as defined in 10.2.5.9 and
         8.3. If propagation delay asymmetry is not modeled, then
         delayAsymmetry is 0.
         NOTE: The underlying per-port global variable delayAsymmetry
         is of type ScaledNS, which is a 96-Bit value.
         delayAsymmetry values that are larger than the maximum value
         that can be represented by the TimeInterval data type, i.e.,
         0x7FFF FFFF FFFF FFFF, (where the units are 2 sup -16 ns),
         used for this managed object are set to this largest value.
         delayAsymmetry values that are less than the minimum value
         that can be represented by the TimeInterval data type, i.e.,
         0x8000 0000 0000 0001 written in twos complement form (where
        the units are 2 sup -16 ns), used for this managed object are
        set to this smallest value."
    REFERENCE   "14.8.10 and 8.3"
    ::= { ieee8021AsV2PortDSEntry 12 }

ieee8021AsV2PortDSNbrRateRatio OBJECT-TYPE
    SYNTAX      Integer32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is an estimate of the ratio of the frequency of
         the LocalClock entity of the PTP Instance at the other end
         of the link attached to this PTP Port, to the frequency of
         the LocalClock entity of this PTP Instance. neighborRateRatio
         is expressed as the fractional frequency offset multiplied
         by 2^41, i.e., the quantity (neighborRateRatio -1.0)(2^41)."
    REFERENCE   "14.8.11"
    ::= { ieee8021AsV2PortDSEntry 13 }


ieee8021AsV2PortDSInitialLogAnnounceInterval OBJECT-TYPE
    SYNTAX      Integer32(-128..127)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "If useMgtSettableLogAnnounceInterval is FALSE (2), the
         value is the logarithm to base 2 of the announce interval
         used when (a) the PTP Port is initialized, or (b) a message
         interval request TLV is received with the logAnnounceInterval
         field set to 126."
    REFERENCE   "14.8.12"
    DEFVAL { 0 }
    ::= { ieee8021AsV2PortDSEntry 14 }
```

```
ieee8021AsV2PortDSCurrentLogAnnounceInterval OBJECT-TYPE
    SYNTAX      Integer32(-128..127)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the logarithm to the base 2 of the
         current announce interval."
    REFERENCE   "14.8.13"
    ::= { ieee8021AsV2PortDSEntry 15 }

ieee8021AsV2PortDSUseMgtSettableLogAnnounceInterval OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The managed object is a Boolean that determines the
         source of the announce interval. If the value is TRUE (1),
         the value of currentLogAnnounceInterval is set equal to the
         value of mgtSettableLogAnnounceInterval. If the value is
         FALSE (2), the value of currentLogAnnounceInterval is
         determined by the AnnounceIntervalSetting state machine. The
         default value of useMgtSettableLogAnnounceInterval is
         FALSE (2) for domain 0 and TRUE (1) for domains other than
         domain 0."
    REFERENCE   "14.8.14"
    ::= { ieee8021AsV2PortDSEntry 16 }

ieee8021AsV2PortDSMgtSettableLogAnnounceInterval OBJECT-TYPE
    SYNTAX      Integer32(-128..127)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the logarithm to base 2 of the announce interval
         used if useMgtSettableLogAnnounceInterval is TRUE (1).
         The value is not used if useMgtSettableLogAnnounceInterval is
         FALSE (2)."
    REFERENCE   "14.8.15"
    ::= { ieee8021AsV2PortDSEntry 17 }

ieee8021AsV2PortDSAnnounceReceiptTimeout OBJECT-TYPE
    SYNTAX      Unsigned32(0..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the number of Announce message transmission
         intervals that a slave port waits without receiving an
         Announce message, before assuming that the master is no
         longer transmitting Announce messages and the BMCA needs
         to be run, if appropriate."
    REFERENCE   "14.8.16"
    DEFVAL { 3 }
    ::= { ieee8021AsV2PortDSEntry 18 }


ieee8021AsV2PortDSInitialLogSyncInterval OBJECT-TYPE
    SYNTAX      Integer32(-128..127)
```

```
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "If useMgtSettableLogSyncInterval is FALSE (2), the
         value is the logarithm to base 2 of the sync interval used
         when (a) the PTP Port is initialized, or (b) a message
         interval request TLV is received with the logTimeSyncInterval
         field set to 126."
    REFERENCE   "14.8.17"
    ::= { ieee8021AsV2PortDSEntry 19 }

ieee8021AsV2PortDSCurrentLogSyncInterval OBJECT-TYPE
    SYNTAX      Integer32(-128..127)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the logarithm to the base 2 of the current
         time-synchronization transmission interval."
    REFERENCE   "14.8.18"
    ::= { ieee8021AsV2PortDSEntry 20 }

ieee8021AsV2PortDSUseMgtSettableLogSyncInterval OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The managed object is a Boolean that determines the source
         of the sync interval. If the value is TRUE (1), the value
         of currentLogSyncInterval is set equal to the value of
         mgtSettableLogSyncInterval. If the value of the managed
         object is FALSE (2), the value of currentLogSyncInterval is
         determined by the SyncIntervalSetting state machine. The
         default value of useMgtSettableLogSyncInterval is FALSE (2)
         for domain 0 and TRUE (1) for domains other than domain 0."
    REFERENCE   "14.8.19"
    ::= { ieee8021AsV2PortDSEntry 21 }

ieee8021AsV2PortDSMgtSettableLogSyncInterval OBJECT-TYPE
    SYNTAX      Integer32(-128..127)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the logarithm to base 2 of the sync interval
         if useMgtSettableLogSyncInterval is TRUE (1). The value is
         not used if useMgtSettableLogSyncInterval is FALSE (2)."
    REFERENCE   "14.8.20"
    ::= { ieee8021AsV2PortDSEntry 22 }

ieee8021AsV2PortDSSyncReceiptTimeout OBJECT-TYPE
    SYNTAX      Unsigned32(0..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the number of time-synchronization transmission
         intervals that a slave port waits without receiving
         synchronization information, before assuming that the master
```

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         is no longer transmitting synchronization information and
         that the BMCA needs to be run, if appropriate."
    REFERENCE   "14.8.21"
    DEFVAL { 3 }
    ::= { ieee8021AsV2PortDSEntry 23 }


ieee8021AsV2PortDSSyncReceiptTimeoutTimeInterval OBJECT-TYPE
    SYNTAX      Ieee8021ASV2UScaledNs
    UNITS       "2**-16 ns"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-PTP Port global
         variable syncReceiptTimeoutTimeInterval. It is the time
         interval after which sync receipt timeout occurs if
         time-synchronization information has not been received during
         the interval."
    REFERENCE   "14.8.22"
    ::= { ieee8021AsV2PortDSEntry 24 }

ieee8021AsV2PortDSInitialLogPdelayReqInterval OBJECT-TYPE
    SYNTAX      Integer32(-128..127)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that
         use the peer-to-peer delay mechanism to measure path delay,
         the value is the logarithm to base 2 of the Pdelay_Req
         message transmission interval used when (a) the PTP Port is
         initialized, or (b) a message interval request TLV is
         received with the logLinkDelayInterval field set to 126.
         For all other media, the value is 127."
    REFERENCE   "14.8.23"
    ::= { ieee8021AsV2PortDSEntry 25 }

ieee8021AsV2PortDSCurrentLogPdelayReqInterval OBJECT-TYPE
    SYNTAX      Integer32(-128..127)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that
         use the peer-to-peer delay mechanism to measure path delay,
         the value is the logarithm to the base 2 of the current
         Pdelay_Req message transmission interval.
         For all other media, the value is 127."
    REFERENCE   "14.8.24"
    ::= { ieee8021AsV2PortDSEntry 26 }

ieee8021AsV2PortDSUseMgtSettableLogPdelayReqInterval OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The managed object is a Boolean that determines the source
         of the mean time interval between successive Pdelay_Req
```

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         messages. If the value is TRUE (1), the value of
         currentLogPdelayReqInterval is set equal to the value of
         mgtSettableLogPdelayReqInterval. If the value of the managed
         object is FALSE (2), the value of currentLogPdelayReqInterval
         is determined by the LinkDelayIntervalSetting state machine.
         The default value of useMgtSettableLogPdelayReqInterval is
         FALSE (2)."
    REFERENCE   "14.8.25"
    DEFVAL { false }
    ::= { ieee8021AsV2PortDSEntry 27 }

ieee8021AsV2PortDSMgtSettableLogPdelayReqInterval OBJECT-TYPE
    SYNTAX      Integer32 (-128..127)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the logarithm to base 2 of the mean time
         interval between successive Pdelay_Req messages if
         useMgtSettableLogPdelayReqInterval is TRUE (1). The
         value is not used if useMgtSettableLogPdelayReqInterval
         is FALSE (2)."
    REFERENCE   "14.8.26"
    ::= { ieee8021AsV2PortDSEntry 28 }

ieee8021AsV2PortDSInitialLogGptpCapableMessageInterval OBJECT-TYPE
    SYNTAX      Integer32 (-128..127)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the logarithm to base 2 of the gPTP capable
         message interval used when (a) the PTP Port is initialized,
         or (b) a gPtpCapableMessage interval request TLV is received
         with the logGptpCapableMessageInterval field set to 126."
    REFERENCE   "14.8.27"
    ::= { ieee8021AsV2PortDSEntry 29 }

ieee8021AsV2PortDSCurrentLogGptpCapableMessageInterval OBJECT-TYPE
    SYNTAX      Integer32 (-128..127)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the logarithm to the base 2 of the current
         gPTP capable message interval."
    REFERENCE   "14.8.28"
    ::= { ieee8021AsV2PortDSEntry 30 }

ieee8021AsV2PortDSUseMgtSettableLogGptpCapableMessageInterval OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The managed object is a Boolean that determines the source
         of the gPTP capable message interval. If the value is
         TRUE (1), the value of currentLogGptpCapableMessageInterval
         is set equal to the value of
         mgtSettableLogGptpCapableMessageInterval. If the value of
```

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          the managed object is FALSE (2), the value of
          currentLogGptpCapableMessageInterval is determined by the
          GptpCapableMessageIntervalSetting state machine.
          The default value of
          useMgtSettableLogGptpCapableMessageInterval is FALSE (2)."
    REFERENCE   "14.8.29"
    DEFVAL { false }
    ::= { ieee8021AsV2PortDSEntry 31 }

ieee8021AsV2PortDSMgtSettableLogGptpCapableMessageInterval OBJECT-TYPE
    SYNTAX      Integer32 (-128..127)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the logarithm to base 2 of the
         gPtpCapableMessageInterval if
         useMgtSettableLogGptpCapableMessageInterval is TRUE (1).
         The value is not used if
         useMgtSettableLogGptpCapableMessageInterval is FALSE (2)."
    REFERENCE   "14.8.30"
    ::= { ieee8021AsV2PortDSEntry 32 }

ieee8021AsV2PortDSInitialComputeNbrRateRatio OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "If useMgtSettableComputeNeighborRateRatio is FALSE (2),
         then for full-duplex IEEE 802.3 media and for CSN media that
         use the peer-to-peer delay mechanism to measure path delay,
         the value is the initial value of computeNeighborRateRatio."
    REFERENCE   "14.8.31"
    ::= { ieee8021AsV2PortDSEntry 33 }

ieee8021AsV2PortDSCurrentComputeNbrRateRatio OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that
         use the peer-to-peer delay mechanism to measure path delay,
         the value is the current value of computeNeighborRateRatio."
    REFERENCE   "14.8.32"
    ::= { ieee8021AsV2PortDSEntry 34 }

ieee8021AsV2PortDSUseMgtSettableComputeNbrRateRatio OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The managed object is a Boolean that determines the source
         of the value of computeNeighborRateRatio. If the value is
         TRUE (1), the value of computeNeighborRateRatio is set equal
         to the value of mgtSettableComputeNeighborRateRatio. If the
         value of the managed object is FALSE (2), the value of
         currentComputeNeighborRateRatio is determined by the
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         LinkDelayIntervalSetting state machine.
         The default value of useMgtSettableComputeNbrRateRatio is
         FALSE (2)."
    REFERENCE   "14.8.33"
    DEFVAL { false }
    ::= { ieee8021AsV2PortDSEntry 35 }

ieee8021AsV2PortDSMgtSettableComputeNbrRateRatio OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "ComputeNeighborRateRatio is configured to this value if
         useMgtSettableComputeNeighborRateRatio is TRUE (1). The
         value is not used if useMgtSettableComputeNeighborRateRatio
         is FALSE (2)."
    REFERENCE   "14.8.34"
    ::= { ieee8021AsV2PortDSEntry 36 }

ieee8021AsV2PortDSInitialComputeMeanLinkDelay OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "If useMgtSettableComputeMeanLinkDelay is FALSE (2) then,
         for full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay,
         the value is the initial value of computeMeanLinkDelay."
    REFERENCE   "14.8.35"
    ::= { ieee8021AsV2PortDSEntry 37 }

ieee8021AsV2PortDSCurrentComputeMeanLinkDelay OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that
         use the peer-to-peer delay mechanism to measure path delay,
         the value is the current value of computeMeanLinkDelay."
    REFERENCE   "14.8.36"
    ::= { ieee8021AsV2PortDSEntry 38 }

ieee8021AsV2PortDSUseMgtSettableComputeMeanLinkDelay OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The managed object is a Boolean that determines the source
         of the value of computeMeanLinkDelay. If the value is
         TRUE (1), the value of computeMeanLinkDelay is set equal to
         the value of mgtSettableComputeMeanLinkDelay. If the value
         of the managed object is FALSE (2), the value of
         currentComputeMeanLinkDelay is determined by the
         LinkDelayIntervalSetting state machine.
         The default value of useMgtSettableComputeMeanLinkDelay
         is FALSE (2)."
```

```
    REFERENCE   "14.8.37"
    DEFVAL { false }
    ::= { ieee8021AsV2PortDSEntry 39 }

ieee8021AsV2PortDSMgtSettableComputeMeanLinkDelay OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "ComputeMeanLinkDelay is configured to this value if
         useMgtSettableComputeMeanLinkDelay is TRUE (1). The
         value is not used if useMgtSettableComputeMeanLinkDelay
         is FALSE (2)."
    REFERENCE   "14.8.38"
    ::= { ieee8021AsV2PortDSEntry 40 }

ieee8021AsV2PortDSAllowedLostRsp OBJECT-TYPE
    SYNTAX      Unsigned32(1..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-PTP Port global
         variable allowedLostResponses. It is the number of Pdelay_Req
         messages without valid responses above which a PTP Port
         is considered to be not exchanging peer delay messages with
         its neighbor.
         Setting this managed object causes the  per-PTP Port global
         variable allowedLostResponses to have the same value."
    REFERENCE   "14.8.39 and 11.5.3"
    DEFVAL { 9 }
    ::= { ieee8021AsV2PortDSEntry 41 }

ieee8021AsV2PortDSAllowedFaults OBJECT-TYPE
    SYNTAX      Unsigned32(1..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-PTP-Port global
         variable allowedFaults. It is the number of faults above
         which asCapable is set to FALSE (1), i.e., a PTP Port is
         considered not capable of interoperating with its
         neighbor via the IEEE 802.1AS protocol.
         Setting this managed object causes the per-PTP Port global
         variable allowedFaults to have the same value."
    REFERENCE   "14.8.40"
    DEFVAL { 9 }
    ::= { ieee8021AsV2PortDSEntry 42 }

ieee8021AsV2PortDSGPtpCapableReceiptTimeout OBJECT-TYPE
    SYNTAX      Unsigned32(1..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the number of transmission intervals that a
         PTP Port waits without receiving the gPTP capable TLV, before
         assuming that the neighbor PTP Port is no longer invoking
```

```
         the gPTP protocol."
    REFERENCE   "14.8.41"
    DEFVAL { 9 }
    ::= { ieee8021AsV2PortDSEntry 43 }

ieee8021AsV2PortDSVersionNumber OBJECT-TYPE
    SYNTAX      Unsigned32(0..16)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This value is set to versionPTP as specified in 10.6.2.2.4."
    REFERENCE   "14.8.42"
    ::= { ieee8021AsV2PortDSEntry 44 }

ieee8021AsV2PortDSNup OBJECT-TYPE
    SYNTAX      Float64TC
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "For an OLT port of an IEEE 802.3 EPON link, the value is
         the effective index of refraction for the EPON upstream
         wavelength light of the optical path. The default value is
         1.46770 for 1 Gb/s upstream links, and 1.46773 for
         10 Gb/s upstream links.
         For all other PTP Ports, the value is 0."
    REFERENCE   "14.8.43"
    ::= { ieee8021AsV2PortDSEntry 45 }

ieee8021AsV2PortDSNdown OBJECT-TYPE
    SYNTAX      Float64TC
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "For an OLT port of an IEEE 802.3 EPON link, the value is
         the effective index of refraction for the EPON downstream
         wavelength light of the optical path. The default value is
         1.46805 for 1 Gb/s downstream links, and 1.46851 for
         10 Gb/s downstream links.
         For all other PTP Ports, the value is 0."
    REFERENCE   "14.8.44"
    ::= { ieee8021AsV2PortDSEntry 46 }

ieee8021AsV2PortDSOneStepTxOper OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-PTP Port global
         variable oneStepTxOper. Its value is TRUE (1) if the
         PTP Port is sending one-step Sync messages, and FALSE (2)
         if the PTP Port is sending two-step Sync and Follow-Up
         messages."
    REFERENCE   "14.8.45"
    ::= { ieee8021AsV2PortDSEntry 47 }

ieee8021AsV2PortDSOneStepReceive OBJECT-TYPE
```

```
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-PTP Port global
         variable oneStepReceive. Its value is TRUE (1) if the
         PTP Port is capable of receiving and processing one-step
         Sync messages."
    REFERENCE   "14.8.46"
    ::= { ieee8021AsV2PortDSEntry 48 }

ieee8021AsV2PortDSOneStepTransmit OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-PTP Port global
         variable oneStepTransmit. Its value is TRUE (1) if the
         PTP Port is capable of transmitting one-step Sync messages."
    REFERENCE   "14.8.47"
    ::= { ieee8021AsV2PortDSEntry 49 }

ieee8021AsV2PortDSInitialOneStepTxOper OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "If useMgtSettableOneStepTxOper is FALSE (2), the value is
         used to initialize currentOneStepTxOper when the PTP Port is
         initialized. If useMgtSettableOneStepTxOper is TRUE (1),
         the value of initialOneStepTxOper is not used."
    REFERENCE   "14.8.48"
    DEFVAL { false }
    ::= { ieee8021AsV2PortDSEntry 50 }

ieee8021AsV2PortDSCurrentOneStepTxOper OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is TRUE (1) if it is desired, either via
         management or via a received Signaling message, that the
         PTP Port transmit one-step Sync messages. The value is
         FALSE (2) if it is not desired, either via management or via
         a received Signaling message, that the PTP Port transmit
         one-step  Sync messages.
         NOTE: The PTP Port will send one-step Sync messages only if
         currentOneStepTxOper and oneStepTransmit are both TRUE (1)."
    REFERENCE   "14.8.49"
    ::= { ieee8021AsV2PortDSEntry 51 }

ieee8021AsV2PortDSUseMgtSettableOneStepTxOper OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
```

```
        "The managed object is a Boolean that determines the source
         of currentOneStepTxOper. If the value is TRUE (1), the
         value of currentOneStepTxOper is set equal to the value of
         mgtSettableOneStepTxOper. If the value is FALSE (2), the
         value of currentOneStepTxOper is determined by the
         OneStepTxOperSetting state machine.
         The default value of useMgtSettableOneStepTxOper is TRUE (1)."
    REFERENCE   "14.8.50"
    DEFVAL     { true }
    ::= { ieee8021AsV2PortDSEntry 52 }

ieee8021AsV2PortDSMgtSettableOneStepTxOper OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "If useMgtSettableOneStepTxOper is TRUE (1),
         currentOneStepTxOper is set equal to the value of
         mgtSettableOneStepTxOper. The value of mgtSettableOneStepTxOper
         is not used if useMgtSettableOneStepTxOper is FALSE (2).
         The default value of mgtSettableOneStepTxOper is FALSE (2)
         for domains other than domain 0."
    REFERENCE   "14.8.51"
    ::= { ieee8021AsV2PortDSEntry 53 }

ieee8021AsV2PortDSSyncLocked OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-PTP Port global
         variable syncLocked. Its value is TRUE (1) if the PTP Port
         will transmit a Sync as soon as possible after the slave
         PTP Port receives a Sync."
    REFERENCE   "14.8.52"
    ::= { ieee8021AsV2PortDSEntry 54 }

ieee8021AsV2PortDSPdelayTruncTST1 OBJECT-TYPE
    SYNTAX      Ieee8021ASV2Timestamp
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay, the
         first value, T1, of the four elements of this array is as
         described in Table 14-9. For all other media, the values are
         zero. This object corresponds to the timestamp t1 in
         Figure 11-1, and expressed in units of 2^-16 ns (i.e., the
         value of this array element is equal to the remainder obtained
         upon dividing the respective timestamp , expressed in units
         of 2^-16 ns, by 2^48).
         At any given time, the timestamp values stored in the T1, T2,
         T3, T4 PdelayTruncTS are for the same, and most recently
         completed, peer delay message exchange."
    REFERENCE   "14.8.53"
    ::= { ieee8021AsV2PortDSEntry 55 }
```

```
ieee8021AsV2PortDSPdelayTruncTST2 OBJECT-TYPE
    SYNTAX      Ieee8021ASV2Timestamp
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay, the
         second value, T2, of the four elements of this array is as
         described in Table 14-9. For all other media, the values are
         zero. This object corresponds to the timestamp t2 in
         Figure 11-1, and expressed in units of 2^-16 ns (i.e., the
         value of this array element is equal to the remainder obtained
         upon dividing the respective timestamp , expressed in units
         of 2^-16 ns, by 2^48).
         At any given time, the timestamp values stored in the T1, T2,
         T3, T4 PdelayTruncTS are for the same, and most recently
         completed, peer delay message exchange."
    REFERENCE   "14.8.53"
    ::= { ieee8021AsV2PortDSEntry 56 }

ieee8021AsV2PortDSPdelayTruncTST3 OBJECT-TYPE
    SYNTAX      Ieee8021ASV2Timestamp
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay, the
         third value, T3, of the four elements of this array is as
         described in Table 14-9. For all other media, the values are
         zero. This object corresponds to the timestamp t3 in
         Figure 11-1, and expressed in units of 2^-16 ns (i.e., the
         value of this array element is equal to the remainder obtained
         upon dividing the respective timestamp , expressed in units
         of 2^-16 ns, by 2^48).
         At any given time, the timestamp values stored in the T1, T2,
         T3, T4 PdelayTruncTS are for the same, and most recently
         completed, peer delay message exchange."
    REFERENCE   "14.8.53"
    ::= { ieee8021AsV2PortDSEntry 57 }

ieee8021AsV2PortDSPdelayTruncTST4 OBJECT-TYPE
    SYNTAX      Ieee8021ASV2Timestamp
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay, the
         fourth value, T4, of the four elements of this array is as
         described in Table 14-9. For all other media, the values are
         zero. This object corresponds to the timestamp t4 in
         Figure 11-1, and expressed in units of 2^-16 ns (i.e., the
         value of this array element is equal to the remainder obtained
         upon dividing the respective timestamp , expressed in units
         of 2^-16 ns, by 2^48).
         At any given time, the timestamp values stored in the T1, T2,
```

```
         T3, T4 PdelayTruncTS are for the same, and most recently
         completed, peer delay message exchange."
    REFERENCE   "14.8.53"
    ::= { ieee8021AsV2PortDSEntry 58 }

ieee8021AsV2PortDSMinorVersionNumber OBJECT-TYPE
    SYNTAX      Unsigned32 (0..15)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This value is set to minorVersionPTP as specified in 10.6.2.2.3."
    REFERENCE   "14.8.54"
    ::= { ieee8021AsV2PortDSEntry 59 }

-- ============================================================
-- The Description Port Parameter Data Set contains the
-- profileIdentifier for this PTP profile, as specified in
-- Annex F.1.
-- ============================================================

ieee8021AsV2DescriptionPortDSTable   OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2DescriptionPortDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The descriptionPortDS contains the profileIdentifier for
         this PTP profile, as specified in Annex F.1."
    REFERENCE   "14.9"
    ::= { ieee8021AsV2MIBObjects 11 }

ieee8021AsV2DescriptionPortDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2DescriptionPortDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The descriptionPortDS contains the profileIdentifier for
         this PTP profile"
    INDEX { ieee8021AsV2PtpInstance,
            ieee8021AsV2DescriptionPortDSAsIndex }
    ::= { ieee8021AsV2DescriptionPortDSTable 1 }

Ieee8021AsV2DescriptionPortDSEntry ::=
     SEQUENCE {
         ieee8021AsV2DescriptionPortDSAsIndex
                                             InterfaceIndexOrZero,
         ieee8021AsV2DescriptionPortDSProfileIdentifier
                                         Ieee8021AsV2GPtpProfileIdentifier }

ieee8021AsV2DescriptionPortDSAsIndex OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object identifies the gPTP interface group within
         the system for which this entry contains information. It
         is the value of the instance of the IfIndex object,
```

```
            defined in the IF-MIB, for the gPTP interface group
            corresponding to this port, or the value 0 if the port
            has not been bound to an underlying frame source and
            sink.

            For a given media port of a Bridge or an end station,
            there can be one or more PTP Port, and depends whether
            a media port supports point to point link (e.g. IEEE
            802.3 Ethernet) or point to multi-point (e.g. CSN, IEEE
            802.3 EPON) links on the media port."
        REFERENCE   "IEEE Std 802.1AS Description Port Parameter DS Group
                     PTP Port Index"
        ::= { ieee8021AsV2DescriptionPortDSEntry 1 }

    ieee8021AsV2DescriptionPortDSProfileIdentifier OBJECT-TYPE
        SYNTAX      Ieee8021AsV2GPtpProfileIdentifier
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value is the profileIdentifier for this PTP profile."
        REFERENCE   "14.9.2 and F.1"
        ::= { ieee8021AsV2DescriptionPortDSEntry 2 }

    -- ============================================================
    -- The Port Parameter Statistics Data Set provides counters
    -- associated with PTP Port capabilities at a given PTP Instance.
    -- ============================================================

    ieee8021AsV2PortStatDSTable   OBJECT-TYPE
        SYNTAX      SEQUENCE OF Ieee8021AsV2PortStatDSEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The portStatisticsDS provides counters associated with PTP Port
             capabilities at a given PTP Instance."
        REFERENCE   "14.10"
        ::= { ieee8021AsV2MIBObjects 12 }

    ieee8021AsV2PortStatDSEntry   OBJECT-TYPE
        SYNTAX      Ieee8021AsV2PortStatDSEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Port Statistics Data Set provides counters associated with
             PTP Port capabilities at a given PTP Instance."
        INDEX { ieee8021AsV2PtpInstance,
                ieee8021AsV2PortDSIndex }
        ::= { ieee8021AsV2PortStatDSTable 1 }

    Ieee8021AsV2PortStatDSEntry ::=
         SEQUENCE {
            ieee8021AsV2PortStatRxSyncCount              Counter32,
            ieee8021AsV2PortStatRxOneStepSyncCount       Counter32,
            ieee8021AsV2PortStatRxFollowUpCount          Counter32,
            ieee8021AsV2PortStatRxPdelayRequestCount     Counter32,
            ieee8021AsV2PortStatRxPdelayRspCount     Counter32,
```

```
          ieee8021AsV2PortStatRxPdelayRspFollowUpCount  Counter32,
          ieee8021AsV2PortStatRxAnnounceCount          Counter32,
          ieee8021AsV2PortStatRxPtpPacketDiscardCount  Counter32,
          ieee8021AsV2PortStatSyncReceiptTimeoutCount   Counter32,
          ieee8021AsV2PortStatAnnounceReceiptTimeoutCount   Counter32,
          ieee8021AsV2PortStatPdelayAllowedLostRspExceededCount Counter32,
          ieee8021AsV2PortStatTxSyncCount              Counter32,
          ieee8021AsV2PortStatTxOneStepSyncCount       Counter32,
          ieee8021AsV2PortStatTxFollowUpCount          Counter32,
          ieee8021AsV2PortStatTxPdelayRequestCount     Counter32,
          ieee8021AsV2PortStatTxPdelayRspCount     Counter32,
          ieee8021AsV2PortStatTxPdelayRspFollowUpCount Counter32,
          ieee8021AsV2PortStatTxAnnounceCount          Counter32
      }

ieee8021AsV2PortStatRxSyncCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time synchronization
         information is received."
    REFERENCE   "14.10.2"
    ::= { ieee8021AsV2PortStatDSEntry 1 }

ieee8021AsV2PortStatRxOneStepSyncCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a one-step Sync
         message is received."
    REFERENCE   "14.10.3"
    ::= { ieee8021AsV2PortStatDSEntry 2 }

ieee8021AsV2PortStatRxFollowUpCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Follow_Up message
         is received."
    REFERENCE   "14.10.4"
    ::= { ieee8021AsV2PortStatDSEntry 3 }

ieee8021AsV2PortStatRxPdelayRequestCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Pdelay_Req message
         is received."
    REFERENCE   "14.10.5"
    ::= { ieee8021AsV2PortStatDSEntry 4 }

ieee8021AsV2PortStatRxPdelayRspCount OBJECT-TYPE
```

```
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Pdelay_Resp message
         is received."
    REFERENCE   "14.10.6"
    ::= { ieee8021AsV2PortStatDSEntry 5 }

ieee8021AsV2PortStatRxPdelayRspFollowUpCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Pdelay_Resp_Follow_Up
         message is received."
    REFERENCE   "14.10.7"
    ::= { ieee8021AsV2PortStatDSEntry 6 }

ieee8021AsV2PortStatRxAnnounceCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time an Announce message
         is received."
    REFERENCE   "14.10.8"
    ::= { ieee8021AsV2PortStatDSEntry 7 }

ieee8021AsV2PortStatRxPtpPacketDiscardCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a PTP message of the
         respective PTP Instance is discarded."
    REFERENCE   "14.10.9"
    ::= { ieee8021AsV2PortStatDSEntry 8 }

ieee8021AsV2PortStatSyncReceiptTimeoutCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time sync receipt timeout
         occurs."
    REFERENCE   "14.10.10"
    ::= { ieee8021AsV2PortStatDSEntry 9 }

ieee8021AsV2PortStatAnnounceReceiptTimeoutCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time announce receipt timeout
         occurs."
```

```
    REFERENCE   "14.10.11"
    ::= { ieee8021AsV2PortStatDSEntry 10 }

ieee8021AsV2PortStatPdelayAllowedLostRspExceededCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time the value of the
         variable lostResponses exceeds the value of the variable
         allowedLostResponses."
    REFERENCE   "14.10.12"
    ::= { ieee8021AsV2PortStatDSEntry 11 }

ieee8021AsV2PortStatTxSyncCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time synchronization
         information is transmitted."
    REFERENCE   "14.10.13"
    ::= { ieee8021AsV2PortStatDSEntry 12 }

ieee8021AsV2PortStatTxOneStepSyncCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a one-step Sync
         message is transmitted."
    REFERENCE   "14.10.14"
    ::= { ieee8021AsV2PortStatDSEntry 13 }

ieee8021AsV2PortStatTxFollowUpCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Follow_Up message
         is transmitted."
    REFERENCE   "14.10.15"
    ::= { ieee8021AsV2PortStatDSEntry 14 }

ieee8021AsV2PortStatTxPdelayRequestCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Pdelay_Req message
         is transmitted."
    REFERENCE   "14.10.16"
    ::= { ieee8021AsV2PortStatDSEntry 15 }

ieee8021AsV2PortStatTxPdelayRspCount OBJECT-TYPE
    SYNTAX      Counter32
```

```
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Pdelay_Resp message
         is transmitted."
    REFERENCE   "14.10.17"
    ::= { ieee8021AsV2PortStatDSEntry 16 }

ieee8021AsV2PortStatTxPdelayRspFollowUpCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a
         Pdelay_Resp_Follow_Up message is transmitted."
    REFERENCE   "14.10.18"
    ::= { ieee8021AsV2PortStatDSEntry 17 }

ieee8021AsV2PortStatTxAnnounceCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time an Announce message is
         transmitted."
    REFERENCE   "14.10.19"
    ::= { ieee8021AsV2PortStatDSEntry 18 }

-- ============================================================
-- The Acceptable Master Port Parameter Data Ser represents the
-- capability to enable/disable the acceptable master table
-- feature on a PTP Port.
-- ============================================================

ieee8021AsV2AcceptableMasterPortDSTable   OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2AcceptableMasterPortDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "For the single PTP Port of a PTP End Instance and for each
         PTP Port of a PTP Relay Instance, the acceptableMasterPortDS
         contains the single member acceptableMasterTableEnabled, which
         is used to enable/disable the Acceptable Master Table Feature.
         The number of such data sets is the same as the value of
         defaultDS.numberPorts."
    REFERENCE   "14.11"
    ::= { ieee8021AsV2MIBObjects 13 }

ieee8021AsV2AcceptableMasterPortDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2AcceptableMasterPortDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The Acceptable Master Port Data Set represents the capability
         to enable/disable the acceptable master table feature on a
         PTP Port.
```

```
          For the single PTP Port of a PTP End Instance and for each
          PTP Port of a PTP Relay Instance, the acceptableMasterPortDS
          contains the single member acceptableMasterTableEnabled, which
          is used to enable/disable the Acceptable Master Table Feature.
          The number of such data sets is the same as the value of
          defaultDS.numberPorts."
    INDEX { ieee8021AsV2PtpInstance,
            ieee8021AsV2AcceptableMasterPortDSAsIndex }
    ::= { ieee8021AsV2AcceptableMasterPortDSTable 1 }

Ieee8021AsV2AcceptableMasterPortDSEntry ::=
  SEQUENCE {
      ieee8021AsV2AcceptableMasterPortDSAsIndex    InterfaceIndexOrZero,
     ieee8021AsV2AcceptableMasterPortDSAcceptableMasterTableEnabled
TruthValue
      }

ieee8021AsV2AcceptableMasterPortDSAsIndex OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An index to identify an entry in the Acceptable Master
         Port Table Data Set."
    REFERENCE   "14.11"
    ::= { ieee8021AsV2AcceptableMasterPortDSEntry 1 }

ieee8021AsV2AcceptableMasterPortDSAcceptableMasterTableEnabled OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the Boolean
         acceptableMasterTableEnabled."
    REFERENCE   "14.11.2"
    ::= { ieee8021AsV2AcceptableMasterPortDSEntry 2 }

-- ============================================================
-- The External Port Configuration Port Data Set is used with
-- the external port configuration option to indicate the
-- desired state for the PTP Port.
-- ============================================================
ieee8021AsV2ExternalPortConfigurationPortDSTable   OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2ExternalPortConfigurationPortDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The externalPortConfigurationPortDS contains the single member
         desiredState, which indicates the desired state for the PTP Port.
         The number of such data sets is the same as the value of
         defaultDS.numberPorts."
    REFERENCE   "14.12"
    ::= { ieee8021AsV2MIBObjects 14 }

ieee8021AsV2ExternalPortConfigurationPortDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ExternalPortConfigurationPortDSEntry
```

```
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The externalPortConfigurationPortDS contains the single member
         desiredState, which indicates the desired state for the PTP Port.
         The number of such data sets is the same as the value of
         defaultDS.numberPorts."
    INDEX { ieee8021AsV2PtpInstance,
            ieee8021AsV2ExternalPortConfigurationPortDSAsIndex }
    ::= { ieee8021AsV2ExternalPortConfigurationPortDSTable 1 }

Ieee8021AsV2ExternalPortConfigurationPortDSEntry ::=
  SEQUENCE {
      ieee8021AsV2ExternalPortConfigurationPortDSAsIndex
InterfaceIndexOrZero,
      ieee8021AsV2ExternalPortConfigurationPortDSDesiredState        INTEGER
       }

ieee8021AsV2ExternalPortConfigurationPortDSAsIndex OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An index to identify an entry in the External Port
         Configuration Port Table Data Set."
    REFERENCE   "14.12"
    ::= { ieee8021AsV2ExternalPortConfigurationPortDSEntry 1 }

ieee8021AsV2ExternalPortConfigurationPortDSDesiredState OBJECT-TYPE
    SYNTAX           INTEGER {
            disabledPort(3),
            masterPort(6),
            passivePort(7),
            slavePort(9)
           }
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "When the value of defaultDS.externalPortConfigurationEnabled
         is TRUE (1), the value of
         externalPortConfigurationPortDS.desiredState is the desired
         state of the PTP Port. This member sets the value of the
         variable portStateInd. When a new value is written to the
         member by management, the variable rcvdPortStateInd is set
         to TRUE (1)."
    REFERENCE   "14.12.2"
    ::= { ieee8021AsV2ExternalPortConfigurationPortDSEntry 2 }

-- ============================================================
-- Asymmetry Measurement Mode Parameter Data Set
-- to enable/disable the feature on a PTP Port.
-- ============================================================

ieee8021AsV2AsymMeasurementModeDSTable   OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2AsymMeasurementModeDSEntry
    MAX-ACCESS  not-accessible
```

```
    STATUS      current
    DESCRIPTION
        "The asymmetryMeasurementModeDS represents the capability to
         enable/disable the Asymmetry Compensation Measurement Procedure
         on a PTP Port (see Annex G). This data set is used instead of
         the cmldsAsymmetryMeasurementModeDS, when only domain 0 is
         present and CMLDS is not used."
    REFERENCE   "14.13"
    ::= { ieee8021AsV2MIBObjects 15 }

ieee8021AsV2AsymMeasurementModeDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2AsymMeasurementModeDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The asymmetryMeasurementModeDS represents the capability to
         enable/disable the Asymmetry Compensation Measurement Procedure
         on a PTP Port (see Annex G). This data set is used instead of
         the cmldsAsymmetryMeasurementModeDS, when only domain 0 is
         present and CMLDS is not used. "
    INDEX { ieee8021AsV2PtpInstance,
            ieee8021AsV2AsymMeasurementModeDSAsIndex }
    ::= { ieee8021AsV2AsymMeasurementModeDSTable 1 }

Ieee8021AsV2AsymMeasurementModeDSEntry ::=
     SEQUENCE {
         ieee8021AsV2AsymMeasurementModeDSAsIndex      InterfaceIndexOrZero,
         ieee8021AsV2AsymMeasurementModeDSAsymMeasurementMode
TruthValue
      }

ieee8021AsV2AsymMeasurementModeDSAsIndex OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An index to identify an entry in the Asymmetry Measurement
         Mode Data Set."
    REFERENCE   "14.13"
    ::= { ieee8021AsV2AsymMeasurementModeDSEntry 1 }

ieee8021AsV2AsymMeasurementModeDSAsymMeasurementMode OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the Boolean
         asymmetryMeasurementMode. For full-duplex IEEE 802.3
         media, the value is TRUE (1) if an asymmetry measurement
         is being performed for the link attached to this PTP Port,
         and FALSE (2) otherwise. For all other media, the value
         shall be FALSE (2). Setting this managed object causes the
         Boolean  asymmetryMeasurementMode to have the same value.
         NOTE: If an asymmetry measurement is being performed for a
         link, asymmetryMeasurementMode must be TRUE (1) for the
         PTP Ports at each end of the link."
```

```
    REFERENCE   "14.13.2"
    ::= { ieee8021AsV2AsymMeasurementModeDSEntry 2 }

-- ============================================================
-- The Common Services Port Parameter Data Set enables a
-- PTP Port of a PTP Instance to determine which port of the
-- respective common service corresponds to that PTP Port.
-- ============================================================
ieee8021AsV2CommonServicesPortDSTable   OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021AsV2CommonServicesPortDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "At present, the only common service specified is the CMLDS, and
         the only member of the commonServicesPortDS is the
         cmldsLinkPortPortNumber. This member contains the port number
         of the CMLDS Link Port that corresponds to this PTP Port."
    REFERENCE   "14.14"
    ::= { ieee8021AsV2MIBObjects 16 }

ieee8021AsV2CommonServicesPortDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2CommonServicesPortDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "At present, the only common service specified is the CMLDS, and
        the only member of the commonServicesPortDS is the
        cmldsLinkPortPortNumber. This member contains the port number
        of the CMLDS Link Port that
         corresponds to this PTP Port."
    INDEX { ieee8021AsV2PtpInstance,
            ieee8021AsV2CommonServicesPortDSAsIndex }
    ::= { ieee8021AsV2CommonServicesPortDSTable 1 }

Ieee8021AsV2CommonServicesPortDSEntry ::=
  SEQUENCE {
      ieee8021AsV2CommonServicesPortDSAsIndex    InterfaceIndexOrZero,
      ieee8021AsV2CommonServicesPortDSCmldsLinkPortPortNumber
Unsigned32
      }

ieee8021AsV2CommonServicesPortDSAsIndex OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An index to identify an entry in the Common Services Port
         Data Set."
    REFERENCE   "14.14"
    ::= { ieee8021AsV2CommonServicesPortDSEntry 1 }

ieee8021AsV2CommonServicesPortDSCmldsLinkPortPortNumber OBJECT-TYPE
    SYNTAX          Unsigned32 (0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
```

```
        "The value is the portNumber attribute of the
         cmldsLinkPortDS.portIdentity of the Link Port that
         corresponds to this PTP Port."
    REFERENCE   "14.14.2"
    ::= { ieee8021AsV2CommonServicesPortDSEntry 2 }

-- ============================================================
-- The Common Mean Link Delay Service Default Parameter Data Set
-- describes the per-time-aware-system attributes of the Common
-- Mean Link Delay Service.
-- ============================================================

ieee8021AsV2CommonMeanLinkDelayServiceDefaultDSTable   OBJECT-TYPE
    SYNTAX      SEQUENCE OF
Ieee8021AsV2CommonMeanLinkDelayServiceDefaultDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The cmldsDefaultDS describes the per-time-aware-system attributes
         of the Common Mean Link Delay Service."
    REFERENCE   "14.15"
    ::= { ieee8021AsV2MIBObjects 17 }

ieee8021AsV2CommonMeanLinkDelayServiceDefaultDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2CommonMeanLinkDelayServiceDefaultDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The cmldsDefaultDS describes the per-time-aware-system attributes
         of the Common Mean Link Delay Service."
    INDEX { ieee8021AsV2CmldsDefaultDSAsIndex }
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceDefaultDSTable 1 }

Ieee8021AsV2CommonMeanLinkDelayServiceDefaultDSEntry ::=
   SEQUENCE {
      ieee8021AsV2CmldsDefaultDSAsIndex  InterfaceIndexOrZero,
      ieee8021AsV2CmldsDefaultDSClockIdentity   Ieee8021AsV2ClockIdentity,
      ieee8021AsV2CmldsDefaultDSNumberLinkPorts Unsigned32
      }


ieee8021AsV2CmldsDefaultDSAsIndex OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An index to identify an entry in the Common Mean Link
         Delay Default Data Set."
    REFERENCE   "14.15"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceDefaultDSEntry 1 }

ieee8021AsV2CmldsDefaultDSClockIdentity OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ClockIdentity
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
```

```
        "The value is the clockIdentity that will be used to
         identify the Common Mean Link Delay Service."
    REFERENCE   "14.15.2"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceDefaultDSEntry 2 }

ieee8021AsV2CmldsDefaultDSNumberLinkPorts OBJECT-TYPE
    SYNTAX      Unsigned32 (0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the number of Link Ports of the time-aware
         system on which the Common Mean Link Delay Service is
         implemented. For an end station the value is 1."
    REFERENCE   "14.15.3"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceDefaultDSEntry 3 }

-- ============================================================
-- The Common Mean Link Delay Service Link Port Parameter Data Set
-- represents time-aware Link Port capabilities for the Common Mean
-- Link Delay Service of a Link Port of a time-aware system.
-- ============================================================

ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSTable   OBJECT-TYPE
    SYNTAX      SEQUENCE OF
Ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "For every Link Port of the Common Mean Link Delay Service of a
         time-aware system, the cmldsLinkPortDS is maintained as the
         basis for making protocol decisions and providing values for
         message fields. The number of such data sets is the same as
         the value of cmldsDefaultDS.numberLinkPorts."
    REFERENCE   "14.16"
    ::= { ieee8021AsV2MIBObjects 18 }

ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "For every Link Port of the Common Mean Link Delay Service of a
         time-aware system, the cmldsLinkPortDS is maintained as the
         basis for making protocol decisions and providing values for
         message fields. The number of such data sets is the same as
         the value of cmldsDefaultDS.numberLinkPorts."
    INDEX { ieee8021AsV2BridgeBasePort,
            ieee8021AsV2CmldsLinkPortDSAsIndex }
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSTable 1 }

Ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry ::=
   SEQUENCE {
     ieee8021AsV2CmldsLinkPortDSAsIndex     InterfaceIndexOrZero,
     ieee8021AsV2CmldsLinkPortDSClockIdentity
Ieee8021AsV2ClockIdentity,
     ieee8021AsV2CmldsLinkPortDSPortNumber             Unsigned32,
```

```
     ieee8021AsV2CmldsLinkPortDSCmldsLinkPortEnabled   TruthValue,
     ieee8021AsV2CmldsLinkPortDSIsMeasuringDelay       TruthValue,
     ieee8021AsV2CmldsLinkPortDSAsCapableAcrossDomains TruthValue,
     ieee8021AsV2CmldsLinkPortDSMeanLinkDelay
Ieee8021ASV2PtpTimeInterval,
     ieee8021AsV2CmldsLinkPortDSMeanLinkDelayThresh
Ieee8021ASV2PtpTimeInterval,
     ieee8021AsV2CmldsLinkPortDSDelayAsym
Ieee8021ASV2PtpTimeInterval,
     ieee8021AsV2CmldsLinkPortDSNbrRateRatio      Integer32,
     ieee8021AsV2CmldsLinkPortDSInitialLogPdelayReqInterval Integer32,
     ieee8021AsV2CmldsLinkPortDSCurrentLogPdelayReqInterval Integer32,
     ieee8021AsV2CmldsLinkPortDSUseMgtSettableLogPdelayReqInterval
TruthValue,
     ieee8021AsV2CmldsLinkPortDSMgtSettableLogPdelayReqInterval
Integer32,
     ieee8021AsV2CmldsLinkPortDSInitialComputeNbrRateRatio     TruthValue,
     ieee8021AsV2CmldsLinkPortDSCurrentComputeNbrRateRatio     TruthValue,
     ieee8021AsV2CmldsLinkPortDSUseMgtSettableComputeNbrRateRatio
TruthValue,
     ieee8021AsV2CmldsLinkPortDSMgtSettableComputeNbrRateRatio
TruthValue,
     ieee8021AsV2CmldsLinkPortDSInitialComputeMeanLinkDelay     TruthValue,
     ieee8021AsV2CmldsLinkPortDSCurrentComputeMeanLinkDelay     TruthValue,
     ieee8021AsV2CmldsLinkPortDSUseMgtSettableComputeMeanLinkDelay
TruthValue,
     ieee8021AsV2CmldsLinkPortDSMgtSettableComputeMeanLinkDelay
TruthValue,
     ieee8021AsV2CmldsLinkPortDSAllowedLostRsp   Unsigned32,
     ieee8021AsV2CmldsLinkPortDSAllowedFaults          Unsigned32,
     ieee8021AsV2CmldsLinkPortDSVersionNumber          Unsigned32,
     ieee8021AsV2CmldsLinkPortDSPdelayTruncTST1 Ieee8021ASV2Timestamp,
     ieee8021AsV2CmldsLinkPortDSPdelayTruncTST2 Ieee8021ASV2Timestamp,
     ieee8021AsV2CmldsLinkPortDSPdelayTruncTST3 Ieee8021ASV2Timestamp,
     ieee8021AsV2CmldsLinkPortDSPdelayTruncTST4 Ieee8021ASV2Timestamp,
     ieee8021AsV2CmldsLinkPortDSMinorVersionNumber     Unsigned32
      }

ieee8021AsV2CmldsLinkPortDSAsIndex OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An index to identify an entry in the Comon Mean Link
         Delay Link Port Data Set."
    REFERENCE   "14.16"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 1 }

ieee8021AsV2CmldsLinkPortDSClockIdentity OBJECT-TYPE
    SYNTAX      Ieee8021AsV2ClockIdentity
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the first of the portIdentity attribute
         of the local port, which is a set made of
         Ieee8021AsV2ClockIdentity and portNumber."
```

```
    REFERENCE   "14.16.2"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 2 }

ieee8021AsV2CmldsLinkPortDSPortNumber OBJECT-TYPE
    SYNTAX      Unsigned32(0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is the second of the portIdentity attribute
         of the local port, which is a set made of
         Ieee8021AsV2ClockIdentity and portNumber."
    REFERENCE   "14.16.2"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 3 }

ieee8021AsV2CmldsLinkPortDSCmldsLinkPortEnabled
 OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the Boolean
         cmldsLinkPortEnabled."
    REFERENCE   "14.16.3"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 4 }

ieee8021AsV2CmldsLinkPortDSIsMeasuringDelay
 OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the Boolean
         isMeasuringDelay."
    REFERENCE   "14.16.4"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 5 }

ieee8021AsV2CmldsLinkPortDSAsCapableAcrossDomains
 OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the Boolean
         asCapableAcrossDomains."
    REFERENCE   "14.16.5"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 6 }

ieee8021AsV2CmldsLinkPortDSMeanLinkDelay
 OBJECT-TYPE
    SYNTAX      Ieee8021ASV2PtpTimeInterval
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-port global
         variable meanLinkDelay. It is an estimate of the current
         one-way propagation time on the link attached to this Link
```

```
          Port, measured as specified for the respective medium. The
          value is zero for Link Ports attached to IEEE 802.3 EPON
          links and for the master port of an IEEE 802.11 link,
          because one-way propagation delay is not measured on the
          latter and not directly measured on the former.
          NOTE: The underlying per-port global variable meanLinkDelay is
          of type UScaledNS, which is a 96-Bit value. meanLinkDelay
          values that are larger than the maximum value that can be
          represented by the TimeInterval data type, i.e.,
          0xFFFF FFFF FFFF FFFF (where the units are 2 sup -16 ns), used
          for this managed object are set to this largest value."
    REFERENCE   "14.16.6"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 7 }

ieee8021AsV2CmldsLinkPortDSMeanLinkDelayThresh
 OBJECT-TYPE
    SYNTAX      Ieee8021ASV2PtpTimeInterval
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-Link-Port global
         variable meanLinkDelayThresh. It is the propagation time
         threshold above which a Link Port (and therefore any PTP Ports
         that use the CMLDS on this Link Port) is considered not
         capable of participating in the IEEE 802.1AS protocol.
         Setting this managed object causes the per-Link-Port global
         variable meanLinkDelayThresh to have the same value.
         NOTE: The underlying per-port global variable
         meanLinkDelayThresh is of type UScaledNS, which is a 96-Bit
         value. meanLinkDelayThresh values that are larger than the
         maximum value that can be represented by the TimeInterval
         data type, i.e., 0xFFFF FFFF FFFF FFFF (where the units are
         2 sup -16 ns), used for this managed object are set to this
         largest value."
    REFERENCE   "14.16.7"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 8 }

ieee8021AsV2CmldsLinkPortDSDelayAsym
 OBJECT-TYPE
    SYNTAX      Ieee8021ASV2PtpTimeInterval
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the asymmetry in the propagation delay on the
         link attached to this Link Port relative to the local clock.
         If propagation delay asymmetry is not modeled, then
         delayAsymmetry is 0.
         NOTE: The underlying per-port global variable delayAsymmetry
         is of type ScaledNS, which is a 96-Bit value.
         delayAsymmetry values that are larger than the maximum value
         that can be represented by the TimeInterval data type, i.e.,
         0x7FFF FFFF FFFF FFFF, (where the units are 2 sup -16 ns),
         used for this managed object are set to this largest value.
         delayAsymmetry values that are less than the minimum value
         that can be represented by the TimeInterval data type, i.e.,
         0x8000 0000 0000 0001 written in twos complement form (where
```

```
        the units are 2 sup -16 ns), used for this managed object are
        set to this smallest value."
    REFERENCE   "14.16.8"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 9 }

ieee8021AsV2CmldsLinkPortDSNbrRateRatio
 OBJECT-TYPE
    SYNTAX      Integer32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value is an estimate of the ratio of the frequency of the
         LocalClock entity of the time-aware system at the other end
         of the link attached to this Link Port, to the frequency of
         the LocalClock entity of this time-aware system.
         neighborRateRatio is expressed as the fractional frequency
         offset multiplied by 2^41, i.e., the quantity
         (neighborRateRatio -1.0)(2^41)."
    REFERENCE   "14.16.9"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 10 }

ieee8021AsV2CmldsLinkPortDSInitialLogPdelayReqInterval OBJECT-TYPE
    SYNTAX      Integer32(-128..127)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "If useMgtSettableLogPdelayReqInterval is FALSE (2) then,
         for full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay, the
         value is the logarithm to base 2 of the Pdelay_Req message
         transmission interval used when (a) the Link Port is
         initialized, or (b) a message interval request TLV is
         received with the logLinkDelayInterval field set to 126.
         For all other media, the value is 127."
    REFERENCE   "14.16.10"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 11 }

ieee8021AsV2CmldsLinkPortDSCurrentLogPdelayReqInterval OBJECT-TYPE
    SYNTAX      Integer32(-128..127)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay,
         the value is the logarithm to the base 2 of the current
         Pdelay_Req message transmission interval.
         For all other media, the value is 127."
    REFERENCE   "14.16.11"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 12 }

ieee8021AsV2CmldsLinkPortDSUseMgtSettableLogPdelayReqInterval OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The managed object is a Boolean that determines the source
```

```
          of the sync interval and mean time interval between
          successive Pdelay_Req messages. If the value is TRUE (1),
          the value of currentLogPdelayReqInterval is set equal to
          the value of mgtSettableLogPdelayReqInterval. If the value
          of the managed object is FALSE (2), the value of
          currentLogPdelayReqInterval is determined by the
          LinkDelayIntervalSetting state machine."
    REFERENCE   "14.16.12"
    DEFVAL { false }
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 13 }

ieee8021AsV2CmldsLinkPortDSMgtSettableLogPdelayReqInterval OBJECT-TYPE
    SYNTAX      Integer32 (-128..127)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is the logarithm to base 2 of the mean time
         interval between successive Pdelay_Req messages if
         useMgtSettableLogPdelayReqInterval is TRUE (1). The
         value is not used if useMgtSettableLogPdelayReqInterval
         is FALSE (2)."
    REFERENCE   "14.16.13"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 14 }

ieee8021AsV2CmldsLinkPortDSInitialComputeNbrRateRatio OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "If useMgtSettableComputeNeighborRateRatio is FALSE (2),
         then for full-duplex IEEE 802.3 media and for CSN media
         that use the peer-to-peer delay mechanism to measure path
         delay, the value is the initial value of
         computeNeighborRateRatio.
         For all other media, the value is TRUE."
    REFERENCE   "14.16.14"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 15 }

ieee8021AsV2CmldsLinkPortDSCurrentComputeNbrRateRatio OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay,
         the value is the current value of computeNeighborRateRatio.
         For all other media, the value is TRUE (1)."
    REFERENCE   "14.16.15"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 16 }

ieee8021AsV2CmldsLinkPortDSUseMgtSettableComputeNbrRateRatio OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The managed object is a Boolean that determines the source
```

```
          of the value of computeNeighborRateRatio. If the value is
          TRUE (1), the value of computeNeighborRateRatio is set equal
          to the value of mgtSettablecomputeNeighborRateRatio. If
          the value of the managed object is FALSE (2), the
          value of currentComputeNeighborRateRatio is determined by
          the LinkDelayIntervalSetting state machine."
    REFERENCE   "14.16.16"
    DEFVAL { false }
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 17 }

ieee8021AsV2CmldsLinkPortDSMgtSettableComputeNbrRateRatio OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "computeNeighborRateRatio is configured to this value if
         useMgtSettableComputeNeighborRateRatio is TRUE (1). The
         value is not used if useMgtSettableComputeNeighborRateRatio
         is FALSE (2)."
    REFERENCE   "14.16.17"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 18 }

ieee8021AsV2CmldsLinkPortDSInitialComputeMeanLinkDelay OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "If useMgtSettableComputeMeanLinkDelay is FALSE (2) then,
         for full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay,
         the value is the initial value of computeMeanLinkDelay.
         For all other media, the value is TRUE (1)."
    REFERENCE   "14.16.18"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 19 }

ieee8021AsV2CmldsLinkPortDSCurrentComputeMeanLinkDelay OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that
         use the peer-to-peer delay mechanism to measure path delay,
         the value is the current value of computeMeanLinkDelay.
         For all other media, the value is TRUE."
    REFERENCE   "14.16.19"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 20 }

ieee8021AsV2CmldsLinkPortDSUseMgtSettableComputeMeanLinkDelay OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The managed object is a Boolean that determines the source
         of the value of computeMeanLinkDelay. If the value is
         TRUE (1), the value of computeMeanLinkDelay is set equal
         to the value of mgtSettableComputeMeanLinkDelay. If the
```

```
          value of the managed object is FALSE (2), the value of
          currentComputeMeanLinkDelay is determined by the
          LinkDelayIntervalSetting state machine."
    REFERENCE   "14.16.20"
    DEFVAL { false }
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 21 }

ieee8021AsV2CmldsLinkPortDSMgtSettableComputeMeanLinkDelay OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "computeMeanLinkDelay is configured to this value if
         useMgtSettableComputeMeanLinkDelay is TRUE (1). The value
         is not used if useMgtSettableComputeMeanLinkDelay is
         FALSE (2)."
    REFERENCE   "14.16.21"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 22 }

ieee8021AsV2CmldsLinkPortDSAllowedLostRsp
 OBJECT-TYPE
    SYNTAX      Unsigned32(1..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-Link-Port
         global variable allowedLostResponses. It is the number
         of Pdelay_Req messages without valid responses
         above which a Link Port is considered to be not
         exchanging peer delay messages with its neighbor.
         Setting this managed object causes the per-Link-Port global
         variable allowedLostResponses to have the same value."
    REFERENCE   "14.16.22"
    DEFVAL { 9 }
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 23 }


ieee8021AsV2CmldsLinkPortDSAllowedFaults OBJECT-TYPE
    SYNTAX      Unsigned32(1..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the per-Link-Port global
         variable allowedFaults. It is the number of faults above
         which asCapableAcrossDomains is set to FALSE (2), i.e., a
         Link Port is considered not capable of interoperating
         with its neighbor via the IEEE 802.1AS protocol.
         Setting this managed object causes the per-Link-Port global
         variable allowedFaults to have the same value."
    REFERENCE   "14.16.23"
    DEFVAL { 9 }
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 24 }

ieee8021AsV2CmldsLinkPortDSVersionNumber OBJECT-TYPE
    SYNTAX      Unsigned32(0..15)
    MAX-ACCESS  read-only
```

```
    STATUS      current
    DESCRIPTION
        "This value is set to versionPTP as specified in 10.6.2.2.4."
    REFERENCE   "14.16.24"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 25 }

ieee8021AsV2CmldsLinkPortDSPdelayTruncTST1
 OBJECT-TYPE
    SYNTAX      Ieee8021ASV2Timestamp
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay, the
         first value, T1, of the four elements of this array is as
         described in Table 14-9. For all other media, the values are
         zero. This object corresponds to the timestamp t1 modulo 2^32
         in Figure 11-1, and expressed in units of 2^-16 ns (i.e., the
         value of this array element is equal to the remainder obtained
         upon dividing the respective timestamp, expressed in units
         of 2^-16 ns, by 2^48).
         At any given time, the timestamp values stored in the T1, T2,
         T3, T4 PdelayTruncTS are for the same, and most recently
         completed, peer delay message exchange.
         NOTE: This managed object is used with the asymmetry
         measurement compensation procedure, which is based on
         line-swapping."
    REFERENCE   "14.16.25"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 26 }

ieee8021AsV2CmldsLinkPortDSPdelayTruncTST2
 OBJECT-TYPE
    SYNTAX      Ieee8021ASV2Timestamp
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay, the
         second value, T2, of the four elements of this array is as
         described in Table 14-9. For all other media, the values are
         zero. This object corresponds to the timestamp t1 modulo 2^32
         in Figure 11-1, and expressed in units of 2^-16 ns (i.e., the
         value of this array element is equal to the remainder obtained
         upon dividing the respective timestamp, expressed in units
         of 2^-16 ns, by 2^48).
         At any given time, the timestamp values stored in the T1, T2,
         T3, T4 PdelayTruncTS are for the same, and most recently
         completed, peer delay message exchange.
         NOTE: This managed object is used with the asymmetry
         measurement compensation procedure, which is based on
         line-swapping."
    REFERENCE   "14.16.25"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 27 }

ieee8021AsV2CmldsLinkPortDSPdelayTruncTST3
 OBJECT-TYPE
```

```
    SYNTAX      Ieee8021ASV2Timestamp
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay, the
         third value, T3, of the four elements of this array is as
         described in Table 14-9. For all other media, the values are
         zero. This object corresponds to the timestamp t1 modulo 2^32
         in Figure 11-1, and expressed in units of 2^-16 ns (i.e., the
         value of this array element is equal to the remainder obtained
         upon dividing the respective timestamp, expressed in units
         of 2^-16 ns, by 2^48).
         At any given time, the timestamp values stored in the T1, T2,
         T3, T4 PdelayTruncTS are for the same, and most recently
         completed, peer delay message exchange.
         NOTE: This managed object is used with the asymmetry
         measurement compensation procedure, which is based on
         line-swapping."
    REFERENCE   "14.16.25"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 28 }

ieee8021AsV2CmldsLinkPortDSPdelayTruncTST4
 OBJECT-TYPE
    SYNTAX      Ieee8021ASV2Timestamp
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For full-duplex IEEE 802.3 media and for CSN media that use
         the peer-to-peer delay mechanism to measure path delay, the
         fourth value, T4, of the four elements of this array is as
         described in Table 14-9. For all other media, the values are
         zero. This object corresponds to the timestamp t1 modulo 2^32
         in Figure 11-1, and expressed in units of 2^-16 ns (i.e., the
         value of this array element is equal to the remainder obtained
         upon dividing the respective timestamp, expressed in units
         of 2^-16 ns, by 2^48).
         At any given time, the timestamp values stored in the T1, T2,
         T3, T4 PdelayTruncTS are for the same, and most recently
         completed, peer delay message exchange.
         NOTE: This managed object is used with the asymmetry
         measurement compensation procedure, which is based on
         line-swapping."
    REFERENCE   "14.16.25"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 29 }

ieee8021AsV2CmldsLinkPortDSMinorVersionNumber OBJECT-TYPE
    SYNTAX      Unsigned32 (0..15)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This value is set to minorVersionPTP as specified in
         10.6.2.2.3."
    REFERENCE   "14.16.26"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSEntry 30 }
```

```
-- ============================================================
-- The Common Mean Link Delay Service Link Port Parameter
-- Statistics Data Set provides counters associated with Link
-- Port capabilities at a given time-aware system.
-- ============================================================

ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF
Ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "For every Link Port of the Common Mean Link Delay Service of a
         time-aware system, the following cmldsLinkPortStatisticsDS
         provides counters. The number of such statistics sets is the
         same as the value of cmldsDefaultDS.numberLinkPorts."
    REFERENCE   "14.17"
    ::= { ieee8021AsV2MIBObjects 19 }

ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry   OBJECT-TYPE
    SYNTAX      Ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "For every Link Port of the Common Mean Link Delay Service of a
         time-aware system, the following cmldsLinkPortStatisticsDS
         provides counters. The number of such statistics sets is the
         same as the value of cmldsDefaultDS.numberLinkPorts."
    INDEX { ieee8021AsV2BridgeBasePort,
            ieee8021AsV2CmldsLinkPortStatDSIndex }
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSTable 1 }

Ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry ::=
  SEQUENCE {
    ieee8021AsV2CmldsLinkPortStatDSIndex          InterfaceIndexOrZero,
    ieee8021AsV2CmldsLinkPortStatDSRxPdelayRequestCount          Counter32,
    ieee8021AsV2CmldsLinkPortStatDSRxPdelayRspCount          Counter32,
    ieee8021AsV2CmldsLinkPortStatDSRxPdelayRspFollowUpCount   Counter32,
    ieee8021AsV2CmldsLinkPortStatDSRxPtpPacketDiscardCount        Counter32,
    ieee8021AsV2CmldsLinkPortStatDSPdelayAllowedLostRspExceededCount
Counter32,
    ieee8021AsV2CmldsLinkPortStatDSTxPdelayRequestCount          Counter32,
    ieee8021AsV2CmldsLinkPortStatDSTxPdelayRspCount          Counter32,
    ieee8021AsV2CmldsLinkPortStatDSTxPdelayRspFollowUpCount   Counter32
      }

ieee8021AsV2CmldsLinkPortStatDSIndex OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An index to identify an entry in the Common Mean Link
         Port Statistics Data Set."
    REFERENCE   "14.17"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry 1 }
```

```
ieee8021AsV2CmldsLinkPortStatDSRxPdelayRequestCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Pdelay_Req message is
         received."
    REFERENCE   "14.17.2"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry 2 }

ieee8021AsV2CmldsLinkPortStatDSRxPdelayRspCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Pdelay_Resp message is
         received."
    REFERENCE   "14.17.3"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry 3 }

ieee8021AsV2CmldsLinkPortStatDSRxPdelayRspFollowUpCount OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Pdelay_Resp_Follow_Up
         message is received."
    REFERENCE   "14.17.4"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry 4 }

ieee8021AsV2CmldsLinkPortStatDSRxPtpPacketDiscardCount
 OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a PTP message of the
         Common Mean Link Delay Service is discarded, caused by the
         occurrence of any of the conditions given in 14.17.5."
    REFERENCE   "14.17.5"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry 5 }

ieee8021AsV2CmldsLinkPortStatDSPdelayAllowedLostRspExceededCount
 OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time the value of the variable
         lostResponses exceeds the value of the variable
         allowedLostResponses, in the RESET state of the
         MDPdelayReq state machine."
    REFERENCE   "14.17.6"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry 6 }

ieee8021AsV2CmldsLinkPortStatDSTxPdelayRequestCount
```

```
 OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Pdelay_Req message is
         transmitted."
    REFERENCE   "14.17.7"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry 7 }

ieee8021AsV2CmldsLinkPortStatDSTxPdelayRspCount
 OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Pdelay_Resp message is
         transmitted."
    REFERENCE   "14.17.8"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry 8 }

ieee8021AsV2CmldsLinkPortStatDSTxPdelayRspFollowUpCount
 OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter that increments every time a Pdelay_Resp_Follow_Up
         message is transmitted."
    REFERENCE   "14.17.9"
    ::= { ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSEntry 9 }

-- ============================================================
-- The Common Mean Link Delay Service Asymmetry Measurement Mode
-- Parameter Data Set represents the capability to enable/disable
-- the Asymmetry Compensation Measurement Procedure on a Link Port
-- (see Annex G).
-- ============================================================

ieee8021AsV2CommonMeanLinkDelayServiceAsymMeasurementModeDSTable   OBJECT-
TYPE
    SYNTAX      SEQUENCE OF
Ieee8021AsV2CommonMeanLinkDelayServiceAsymMeasurementModeDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The Common Mean Link Delay Service Asymmetry Measurement Mode
         Parameter Data Set represents the capability to enable/disable
         the Asymmetry Compensation Measurement Procedure on a Link Port
         (see Annex G)."
    REFERENCE   "14.18"
    ::= { ieee8021AsV2MIBObjects 20 }

ieee8021AsV2CommonMeanLinkDelayServiceAsymMeasurementModeDSEntry   OBJECT-
TYPE
```

```
    SYNTAX
Ieee8021AsV2CommonMeanLinkDelayServiceAsymMeasurementModeDSEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table uses
         ieee8021AsV2CmldsAsymmetryMeasurementModeDSAsIndex,
         and corresponds to

ieee8021AsV2CommonMeanLinkDelayServiceAsymmetryMeasurementModeDSTable
         entry."
    INDEX { ieee8021AsV2BridgeBasePort,
            ieee8021AsV2CmldsAsymMeasurementModeDSAsIndex }
   ::= { ieee8021AsV2CommonMeanLinkDelayServiceAsymMeasurementModeDSTable 1
}

Ieee8021AsV2CommonMeanLinkDelayServiceAsymMeasurementModeDSEntry ::=
     SEQUENCE {
 ieee8021AsV2CmldsAsymMeasurementModeDSAsIndex InterfaceIndexOrZero,
 ieee8021AsV2CmldsAsymMeasurementModeDSAsymMeasurementMode    TruthValue
      }

ieee8021AsV2CmldsAsymMeasurementModeDSAsIndex OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object identifies the gPTP interface group within
         the system for which this entry contains information. It
         is the value of the instance of the IfIndex object,
         defined in the IF-MIB, for the gPTP interface group
         corresponding to this port, or the value 0 if the port
         has not been bound to an underlying frame source and
         sink.

         For a given media port of a Bridge or an end station,
         there can be one or more PTP Port, and depends whether
         a media port supports point to point link (e.g. IEEE
         802.3 Ethernet) or point to multi-point (e.g. CSN, IEEE
         802.3 EPON) links on the media port."
    REFERENCE   "IEEE Std 802.1AS
CommonMeanLinkDelaySvcAsymMeasurementModeParamDS Group PTP Port Index"
  ::= { ieee8021AsV2CommonMeanLinkDelayServiceAsymMeasurementModeDSEntry 1 }

ieee8021AsV2CmldsAsymMeasurementModeDSAsymMeasurementMode
    OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value is equal to the value of the Boolean
         asymmetryMeasurementMode(see G.3). For full-duplex
         IEEE 802.3 media, the value is TRUE (1) if an asymmetry
          measurement is being performed for the link attached to
         this Link Port, and FALSE (2) otherwise. For all other
         media, the value shall be FALSE (2) (see 10.2.4.2).
```

```
            Setting this managed object causes the Boolean
            allowedFaults to have the same value.
            NOTE: If an asymmetry measurement is being performed
            for a link, asymmetryMeasurementMode must be TRUE (1)
            for the Link Ports at each end of the link.
            There is one Common Mean Link Delay Service Asymmetry
            Measurement Mode Parameter Data Set Table for all PTP
            Instances, per Link Port."
        REFERENCE   "14.18.2"
      ::= { ieee8021AsV2CommonMeanLinkDelayServiceAsymMeasurementModeDSEntry 2 }

-- ****************************************************************
-- IEEE 802.1ASV2 MIB - Conformance Information
-- ****************************************************************
ieee8021AsV2Groups          OBJECT IDENTIFIER ::= { ieee8021AsV2Conformance
1 }
ieee8021AsV2Compliances     OBJECT IDENTIFIER ::= { ieee8021AsV2Conformance
2 }

-- ================================================================
-- units of conformance
-- ================================================================

ieee8021AsV2PtpInstanceGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2PtpInstanceName,
        ieee8021AsV2PtpInstanceRowStatus
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information for dynamic
         creation and deletion of PTP Instances and logical ports."
    ::= { ieee8021AsV2Groups 1 }

ieee8021AsV2DefaultDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2DefaultDSClockIdentity,
        ieee8021AsV2DefaultDSNumberPorts,
        ieee8021AsV2DefaultDSClockQualityClockClass,
        ieee8021AsV2DefaultDSClockQualityClockAccuracy,
        ieee8021AsV2DefaultDSClockQualityOffsetScaledLogVariance,
        ieee8021AsV2DefaultDSPriority1,
        ieee8021AsV2DefaultDSPriority2,
        ieee8021AsV2DefaultDSGmCapable,
        ieee8021AsV2DefaultDSCurrentUtcOffset,
        ieee8021AsV2DefaultDSCurrentUtcOffsetValid,
        ieee8021AsV2DefaultDSLeap59,
        ieee8021AsV2DefaultDSLeap61,
        ieee8021AsV2DefaultDSTimeTraceable,
        ieee8021AsV2DefaultDSFrequencyTraceable,
        ieee8021AsV2DefaultDSPtpTimescale,
        ieee8021AsV2DefaultDSTimeSource,
        ieee8021AsV2DefaultDSDomainNumber,
        ieee8021AsV2DefaultDSSdoId,
        ieee8021AsV2DefaultDSExternalPortConfigurationEnabled,
        ieee8021AsV2DefaultDSInstanceEnable
```

```
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the Default
         Parameter Data Set representing the native capabilities of a
         PTP Instance, i.e., a PTP Relay Instance or a PTP End Instance."
    ::= { ieee8021AsV2Groups 2 }

ieee8021AsV2CurrentDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2CurrentDSStepsRemoved,
        ieee8021AsV2CurrentDSOffsetFromMaster,
        ieee8021AsV2CurrentDSLastGmPhaseChange,
        ieee8021AsV2CurrentDSLastGmFreqChange,
        ieee8021AsV2CurrentDSGmTimebaseIndicator,
        ieee8021AsV2CurrentDSGmChangeCount,
        ieee8021AsV2CurrentDSTimeOfLastGmChangeEvent,
        ieee8021AsV2CurrentDSTimeOfLastGmPhaseChangeEvent,
        ieee8021AsV2CurrentDSTimeOfLastGmFreqChangeEvent
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the Current
         Parameter Data Set representing the position of a local system
         and other information, relative to the Grandmaster PTP Instance."
    ::= { ieee8021AsV2Groups 3 }

ieee8021AsV2ParentDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2ParentDSParentClockIdentity,
        ieee8021AsV2ParentDSParentPortNumber,
        ieee8021AsV2ParentDSCumulativeRateRatio,
        ieee8021AsV2ParentDSGrandmasterIdentity,
        ieee8021AsV2ParentDSGrandmasterClockQualityclockClass,
        ieee8021AsV2ParentDSGrandmasterClockQualityclockAccuracy,
        ieee8021AsV2ParentDSGrandmasterClockQualityoffsetScaledLogVar,
        ieee8021AsV2ParentDSGrandmasterPriority1,
        ieee8021AsV2ParentDSGrandmasterPriority2
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the Parent
         Parameter Data Set representing capabilities of the upstream
         system, toward the Grandmaster PTP Instance, as measured at
         a local system."
    ::= { ieee8021AsV2Groups 4 }

ieee8021AsV2TimePropertiesDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2TimePropertiesDSCurrentUtcOffset,
        ieee8021AsV2TimePropertiesDSCurrentUtcOffsetValid,
        ieee8021AsV2TimePropertiesDSLeap59,
        ieee8021AsV2TimePropertiesDSLeap61,
        ieee8021AsV2TimePropertiesDSTimeTraceable,
        ieee8021AsV2TimePropertiesDSFrequencyTraceable,
        ieee8021AsV2TimePropertiesDSPtpTimescale,
```

```
        ieee8021AsV2TimePropertiesDSTimeSource
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the Time
         Properties Parameter Data Set representing capabilities of
         the Grandmaster PTP Instance, as measured at a local system."
    ::= { ieee8021AsV2Groups 5 }

ieee8021AsV2PathTraceDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2PathTraceDSEnable
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the Path Trace
         Data Set representing the current path trace information
         available at the PTP Instance."
    ::= { ieee8021AsV2Groups 6 }

ieee8021AsV2PathTraceDSArrayTableGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2PathTraceDSArrayList
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information of an array of
         ClockIdentity values contained in the pathTrace array,
         representing the current path trace information, and which is
         carried in the path trace TLV per PTP Instance."
    ::= { ieee8021AsV2Groups 7 }

ieee8021AsV2AcceptableMasterTableDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2AcceptableMasterTableDSMaxTableSize,
        ieee8021AsV2AcceptableMasterTableDSActualTableSize
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the
         Acceptable Master Table Data Set representing the acceptable
         master table used when an EPON port is used by a PTP Instance
         of a time-aware system."
    ::= { ieee8021AsV2Groups 8 }

ieee8021AsV2AcceptableMasterTableDSArrayGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2AcceptableMasterTableDSArrayPortIdentity,
        ieee8021AsV2AcceptableMasterTableDSArrayAlternatePriority1
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the
         Acceptable Master Table Array Data Set representing the
         acceptable master table used when an EPON port is used by a
         PTP Instance of a time-aware system."
```

```
    ::= { ieee8021AsV2Groups 9 }

ieee8021AsV2PortDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2PortDSClockIdentity,
        ieee8021AsV2PortDSPortNumber,
        ieee8021AsV2PortDSPortState,
        ieee8021AsV2PortDSPtpPortEnabled,
        ieee8021AsV2PortDSDelayMechanism,
        ieee8021AsV2PortDSIsMeasuringDelay,
        ieee8021AsV2PortDSAsCapable,
        ieee8021AsV2PortDSMeanLinkDelay,
        ieee8021AsV2PortDSMeanLinkDelayThresh,
        ieee8021AsV2PortDSDelayAsym,
        ieee8021AsV2PortDSNbrRateRatio,
        ieee8021AsV2PortDSInitialLogAnnounceInterval,
        ieee8021AsV2PortDSCurrentLogAnnounceInterval,
        ieee8021AsV2PortDSUseMgtSettableLogAnnounceInterval,
        ieee8021AsV2PortDSMgtSettableLogAnnounceInterval,
        ieee8021AsV2PortDSAnnounceReceiptTimeout,
        ieee8021AsV2PortDSInitialLogSyncInterval,
        ieee8021AsV2PortDSCurrentLogSyncInterval,
        ieee8021AsV2PortDSUseMgtSettableLogSyncInterval,
        ieee8021AsV2PortDSMgtSettableLogSyncInterval,
        ieee8021AsV2PortDSSyncReceiptTimeout,
        ieee8021AsV2PortDSSyncReceiptTimeoutTimeInterval,
        ieee8021AsV2PortDSInitialLogPdelayReqInterval,
        ieee8021AsV2PortDSCurrentLogPdelayReqInterval,
        ieee8021AsV2PortDSUseMgtSettableLogPdelayReqInterval,
        ieee8021AsV2PortDSMgtSettableLogPdelayReqInterval,
        ieee8021AsV2PortDSInitialLogGptpCapableMessageInterval,
        ieee8021AsV2PortDSCurrentLogGptpCapableMessageInterval,
        ieee8021AsV2PortDSUseMgtSettableLogGptpCapableMessageInterval,
        ieee8021AsV2PortDSMgtSettableLogGptpCapableMessageInterval,
        ieee8021AsV2PortDSInitialComputeNbrRateRatio,
        ieee8021AsV2PortDSCurrentComputeNbrRateRatio,
        ieee8021AsV2PortDSUseMgtSettableComputeNbrRateRatio,
        ieee8021AsV2PortDSMgtSettableComputeNbrRateRatio,
        ieee8021AsV2PortDSInitialComputeMeanLinkDelay,
        ieee8021AsV2PortDSCurrentComputeMeanLinkDelay,
        ieee8021AsV2PortDSUseMgtSettableComputeMeanLinkDelay,
        ieee8021AsV2PortDSMgtSettableComputeMeanLinkDelay,
        ieee8021AsV2PortDSAllowedLostRsp,
        ieee8021AsV2PortDSAllowedFaults,
        ieee8021AsV2PortDSGPtpCapableReceiptTimeout,
        ieee8021AsV2PortDSVersionNumber,
        ieee8021AsV2PortDSNup,
        ieee8021AsV2PortDSNdown,
        ieee8021AsV2PortDSOneStepTxOper,
        ieee8021AsV2PortDSOneStepReceive,
        ieee8021AsV2PortDSOneStepTransmit,
        ieee8021AsV2PortDSInitialOneStepTxOper,
        ieee8021AsV2PortDSCurrentOneStepTxOper,
        ieee8021AsV2PortDSUseMgtSettableOneStepTxOper,
        ieee8021AsV2PortDSMgtSettableOneStepTxOper,
        ieee8021AsV2PortDSSyncLocked,
```

```
        ieee8021AsV2PortDSPdelayTruncTST1,
        ieee8021AsV2PortDSPdelayTruncTST2,
        ieee8021AsV2PortDSPdelayTruncTST3,
        ieee8021AsV2PortDSPdelayTruncTST4,
        ieee8021AsV2PortDSMinorVersionNumber
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on PTP Port
         related variables in a time-aware Bridge or for a time-aware
         end station."
    ::= { ieee8021AsV2Groups 10 }

ieee8021AsV2DescriptionPortDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2DescriptionPortDSProfileIdentifier
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the
         Description Port Data Set containing the profileIdentifier for
         this PTP profile, as specified in Annex F.1."
    ::= { ieee8021AsV2Groups 11 }

ieee8021AsV2PortStatIfGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2PortStatRxSyncCount,
        ieee8021AsV2PortStatRxOneStepSyncCount,
        ieee8021AsV2PortStatRxFollowUpCount,
        ieee8021AsV2PortStatRxPdelayRequestCount,
        ieee8021AsV2PortStatRxPdelayRspCount,
        ieee8021AsV2PortStatRxPdelayRspFollowUpCount,
        ieee8021AsV2PortStatRxAnnounceCount,
        ieee8021AsV2PortStatRxPtpPacketDiscardCount,
        ieee8021AsV2PortStatSyncReceiptTimeoutCount,
        ieee8021AsV2PortStatAnnounceReceiptTimeoutCount,
        ieee8021AsV2PortStatPdelayAllowedLostRspExceededCount,
        ieee8021AsV2PortStatTxSyncCount,
        ieee8021AsV2PortStatTxOneStepSyncCount,
        ieee8021AsV2PortStatTxFollowUpCount,
        ieee8021AsV2PortStatTxPdelayRequestCount,
        ieee8021AsV2PortStatTxPdelayRspCount,
        ieee8021AsV2PortStatTxPdelayRspFollowUpCount,
        ieee8021AsV2PortStatTxAnnounceCount
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the Port
         Statistics Data Set provideing counters associated with PTP Port
         capabilities at a given PTP Instance."
    ::= { ieee8021AsV2Groups 12 }

ieee8021AsV2AcceptableMasterPortDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2AcceptableMasterPortDSAcceptableMasterTableEnabled
    }
```

```
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information for the single
         PTP Port of a PTP End Instance and for each PTP Port of a
         PTP Relay Instance."
    ::= { ieee8021AsV2Groups 13 }

ieee8021AsV2ExternalPortConfigurationPortDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2ExternalPortConfigurationPortDSDesiredState
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the
         External Port Configuration Port Data Set containing the
         single member desiredState, which indicates the desired state
         for the PTP Port."
    ::= { ieee8021AsV2Groups 14 }

ieee8021AsV2AsymMeasurementModeDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2AsymMeasurementModeDSAsymMeasurementMode
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the
         Asymmetry Measurement Mode Data Set representing the capability
         to enable/disable the Asymmetry Compensation Measurement
         Procedure on a Link Port (see Annex G)."
    ::= { ieee8021AsV2Groups 15 }

ieee8021AsV2CommonServicesPortDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2CommonServicesPortDSCmldsLinkPortPortNumber
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the
         Common Services Port Data Set."
    ::= { ieee8021AsV2Groups 16 }

ieee8021AsV2CommonMeanLinkDelayServiceDefaultDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2CmldsDefaultDSClockIdentity,
        ieee8021AsV2CmldsDefaultDSNumberLinkPorts
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the
         CMLDs Default Data Set describing the per-time-aware-system
         attributes of the Common Mean Link Delay Service."
    ::= { ieee8021AsV2Groups 17 }

ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2CmldsLinkPortDSClockIdentity,
```

```
        ieee8021AsV2CmldsLinkPortDSPortNumber,
        ieee8021AsV2CmldsLinkPortDSCmldsLinkPortEnabled,
        ieee8021AsV2CmldsLinkPortDSIsMeasuringDelay,
        ieee8021AsV2CmldsLinkPortDSAsCapableAcrossDomains,
        ieee8021AsV2CmldsLinkPortDSMeanLinkDelay,
        ieee8021AsV2CmldsLinkPortDSMeanLinkDelayThresh,
        ieee8021AsV2CmldsLinkPortDSDelayAsym,
        ieee8021AsV2CmldsLinkPortDSNbrRateRatio,
        ieee8021AsV2CmldsLinkPortDSInitialLogPdelayReqInterval,
        ieee8021AsV2CmldsLinkPortDSCurrentLogPdelayReqInterval,
        ieee8021AsV2CmldsLinkPortDSUseMgtSettableLogPdelayReqInterval,
        ieee8021AsV2CmldsLinkPortDSMgtSettableLogPdelayReqInterval,
        ieee8021AsV2CmldsLinkPortDSInitialComputeNbrRateRatio,
        ieee8021AsV2CmldsLinkPortDSCurrentComputeNbrRateRatio,
        ieee8021AsV2CmldsLinkPortDSUseMgtSettableComputeNbrRateRatio,
        ieee8021AsV2CmldsLinkPortDSMgtSettableComputeNbrRateRatio,
        ieee8021AsV2CmldsLinkPortDSInitialComputeMeanLinkDelay,
        ieee8021AsV2CmldsLinkPortDSCurrentComputeMeanLinkDelay,
        ieee8021AsV2CmldsLinkPortDSUseMgtSettableComputeMeanLinkDelay,
        ieee8021AsV2CmldsLinkPortDSMgtSettableComputeMeanLinkDelay,
        ieee8021AsV2CmldsLinkPortDSAllowedLostRsp,
        ieee8021AsV2CmldsLinkPortDSAllowedFaults,
        ieee8021AsV2CmldsLinkPortDSVersionNumber,
        ieee8021AsV2CmldsLinkPortDSPdelayTruncTST1,
        ieee8021AsV2CmldsLinkPortDSPdelayTruncTST2,
        ieee8021AsV2CmldsLinkPortDSPdelayTruncTST3,
        ieee8021AsV2CmldsLinkPortDSPdelayTruncTST4,
        ieee8021AsV2CmldsLinkPortDSMinorVersionNumber
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information for every
         Link Port of the Common Mean Link Delay Service of a
         time-aware system."
    ::= { ieee8021AsV2Groups 18 }

ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSGroup OBJECT-GROUP
    OBJECTS {
        ieee8021AsV2CmldsLinkPortStatDSRxPdelayRequestCount,
        ieee8021AsV2CmldsLinkPortStatDSRxPdelayRspCount,
        ieee8021AsV2CmldsLinkPortStatDSRxPdelayRspFollowUpCount,
        ieee8021AsV2CmldsLinkPortStatDSRxPtpPacketDiscardCount,
        ieee8021AsV2CmldsLinkPortStatDSPdelayAllowedLostRspExceededCount,
        ieee8021AsV2CmldsLinkPortStatDSTxPdelayRequestCount,
        ieee8021AsV2CmldsLinkPortStatDSTxPdelayRspCount,
        ieee8021AsV2CmldsLinkPortStatDSTxPdelayRspFollowUpCount
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information for every
         Link Port Statistics of the Common Mean Link Delay Service of a
         time-aware system."
    ::= { ieee8021AsV2Groups 19 }

ieee8021AsV2CommonMeanLinkDelayServiceAsymMeasurementModeDSGroup OBJECT-
GROUP
```

```
    OBJECTS {
        ieee8021AsV2CmldsAsymMeasurementModeDSAsymMeasurementMode
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing information on the
         Common Mean Link Delay Service Asymmetry Measurement Mode
         Parameter Data Set representing the capability to enable/disable
         the Asymmetry Compensation Measurement Procedure on a Link Port
         (see Annex G)."
    ::= { ieee8021AsV2Groups 20 }

-- ============================================================
-- compliance statements
-- ============================================================

ieee8021AsV2Compliance MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION
        "The compliance statement for devices supporting
         IEEE Std 802.1AS-2020."

    MODULE -- this module

    GROUP ieee8021AsV2PtpInstanceGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2DefaultDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2CurrentDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2ParentDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2TimePropertiesDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2PathTraceDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2PathTraceDSArrayTableGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2AcceptableMasterTableDSGroup
    DESCRIPTION
        "Implementation of this group is optional."
```

```
    GROUP ieee8021AsV2AcceptableMasterTableDSArrayGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2PortDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2DescriptionPortDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2PortStatIfGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2AcceptableMasterPortDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2ExternalPortConfigurationPortDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2AsymMeasurementModeDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2CommonServicesPortDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2CommonMeanLinkDelayServiceDefaultDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2CommonMeanLinkDelayServiceLinkPortDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2CommonMeanLinkDelayServiceLinkPortStatDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    GROUP ieee8021AsV2CommonMeanLinkDelayServiceAsymMeasurementModeDSGroup
    DESCRIPTION
        "Implementation of this group is optional."

    ::= { ieee8021AsV2Compliances 1 }

END
```