

# IEEE P802.3.2a™/D0-51.0

## Draft Standard for Ethernet YANG Data Model Definition

Prepared by the

**LAN/MAN**

**Standards**

**Committee**

of

the

**IEEE Computer Society**

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**Abstract:** YANG models for IEEE Std 802.3 are defined in this standard. This standard also publishes these models in a machine-readable format.

**Keywords:** 802.3, 802.3.2, Ethernet, YANG

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# Introduction

**This introduction is not part of IEEE Std 802.3.2a-202x, IEEE Draft Standard for Ethernet YANG Data Model Definitions.**

The YANG modules included in this standard provide YANG versions of attributes defined in IEEE Std 802.3™-2022, Clause 30, as well as derivative attributes defined in other management information bases (e.g., SNMP attributes included in IEEE Std 802.3.1, YANG versions of IETF Etherlike MIB attributes, etc.). The YANG modules defined in this standard accommodate IEEE Std 802.3-2022, excluding any currently published or future amendments.

IEEE Std 802.3 will continue to evolve. New Ethernet capabilities are anticipated to be added within the next few years as amendments to this standard.

## 5. Ethernet YANG Module

### 5.1 YANG module structure

Two modules defined in this clause are focused on the configuration and monitoring of IEEE Std 802.3 Ethernet interfaces. The *ieee802-ethernet-interface* YANG module contains definitions of current attributes used widely in the industry in current products, while the *ieee802-ethernet-interface-half-duplex* YANG module contains definitions of half-duplex attributes. The *ieee802-ethernet-lldp* YANG module contains definitions for configuring LLDP for IEEE Std 802.3 compliant interfaces.

This standard does not have a normative requirement for data nodes of the base ietf-interfaces YANG module, but the following data nodes are supported: name, description, type, enabled, admin-status, oper-status, if-index, and phys-address.

### 5.2 Mapping of IEEE Std 802.3, Clause 30 managed objects

This subclause contains the mapping between YANG data nodes included in *ieee802-ethernet-interface* (see Table 5–1), *ieee802-ethernet-interface-half-duplex* (see Table 5–4), [ieee802-ethernet-mac-mgmt](#) (see Table 5–5), and *ieee802-ethernet-lldp* (see Table 5–7) YANG modules, managed objects, and attributes defined in IEEE Std 802.3, Clause 30.

**Table 5–1—Mapping between IEEE Std 802.3, Clause 30 managed objects and *ieee802-ethernet-interface* YANG data nodes**

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-interface</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
oAutoNegotiation	acAutoNegAdminControl	30.6.1.2.2	interfaces/interface/ethernet/	auto-negotiation/enable	R/W
	aAutoNegAutoConfig	30.6.1.1.4		negotiation-status	R
N/A	N/A			flow-control/pause/direction	R/W
oMACControlFunctionEntity	aPAUSEMACCtrlFramesReceived	30.3.4.3		flow-control/pause/statistics/in-frames-pause	R
	aPAUSEMACCtrlFramesTransmitted	30.3.4.2		flow-control/pause/statistics/out-frames-pause	R
N/A	dot3HCOutPFCFrames				
N/A	N/A			flow-control/force-flow-control	R/W
N/A	N/A			speed	R/W
oMACEntity	aDuplexStatus	30.3.1.1.32		duplex	R/W
	aMaxFrameLength	30.3.1.1.37		max-frame-length	R
	aSlowProtocolFrameLimit	30.3.1.1.38		frame-limit-slow-protocol	R
oEXTENSION	aEXTENSIONMACCtrlStatus	30.3.8.3		mac-control-extension-control	R
N/A	N/A			capabilities/auto-negotiation	R

**Table 5–1—Mapping between IEEE Std 802.3, Clause 30 managed objects and *ieee802-ethernet-interface* YANG data nodes (continued)**

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-interface</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
oMACEntity	aFramesReceivedOK	30.3.1.1.5	interfaces/interface/ethernet/statistics/frame	in-frames	R
	aMulticastFramesReceivedOK	30.3.1.1.21		in-multicast-frames	R
	aBroadcastFramesReceivedOK	30.3.1.1.22		in-broadcast-frames	R
	aFrameCheckSequenceErrors + aAlignmentErrors	30.4.3.1.6, 30.4.3.1.7		in-error-fcs-frames	R
oMACEntity	aFrameTooLongErrors	30.3.1.1.25		in-error-oversize-frames	R
	aFramesLostDueToIntMACRcvError	30.3.1.1.15		in-error-mac-internal-frames	R
	aFramesTransmittedOK	30.3.1.1.2		out-frames	R
	aMulticastFramesXmittedOK	30.3.1.1.18		out-multicast-frames	R
	aBroadcastFramesXmittedOK	30.3.1.1.19		out-broadcast-frames	R
	aFramesLostDueToIntMACXmitError	30.3.1.1.12		out-error-mac-internal-frames	R
oPHYEntity	aSymbolErrorDuringCarrier	30.3.2.1.5	interfaces/interface/ethernet/statistics/phy	in-error-symbol	R
	aReceiveLPITransitions	30.3.2.1.11	interfaces/interface/ethernet/statistics/phy/lpi	in-lpi-transitions	R
	aReceiveLPIMicroseconds	30.3.2.1.9		in-lpi-time	R
	aTransmitLPITransitions	30.3.2.1.10		out-lpi-transitions	R
	aTransmitLPIMicroseconds	30.3.2.1.8		out-lpi-time	R

**Table 5–1—Mapping between IEEE Std 802.3, Clause 30 managed objects and *ieee802-ethernet-interface* YANG data nodes (continued)**

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-interface</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
oMACControlEntity	aUnsupportedOpcodesReceived	30.3.3.5	interfaces/interface/ethernet/statistics/mac-control	in-frames-mac-control-unknown	R
oEXTENSION	aEXTENSIONMACCtrlFramesReceived	30.3.8.2		in-frames-mac-control-extension	R
	aEXTENSIONMACCtrlFramesTransmitted	30.3.8.1		out-frames-mac-control-extension	R

**Table 5–2—Mapping between IETF RFC 2819 managed objects and *ieee802-ethernet-interface* YANG data nodes**

IETF RFC 2819 Attribute(s)	Corresponding <i>ieee802-ethernet-interface</i> YANG data nodes		
	Container(s)	Data node(s)	R/W
no direct object <sup>a</sup>	interfaces/interface/ethernet/statistics/frame	in-total-frames	R
etherStatsOctets		in-total-octets	R
etherStatsUndersizePkts + etherStatsFragments		in-error-undersize-frames	R

<sup>a</sup> Can be calculated as: aFramesReceivedOK + aFrameCheckSequenceErrors + aAlignmentErrors + aFrameTooLongErrors + aFramesLostDueToIntMACRcvError.

**Table 5–3—Mapping between IETF RFC 3635 managed objects and *ieee802-ethernet-interface* YANG data nodes**

ETHERLIKE MIB Attribute(s)	Corresponding <i>ieee802-ethernet-interface</i> YANG data nodes		
	Container(s)	Data node(s)	R/W
dot3HCInPFCFrames	interfaces/interface/ethernet/	flow-control/pfc{ethernet-pfc} / statistics/in-frames-pfc	R
dot3HCOutPFCFrames		flow-control/pfc{ethernet-pfc} / statistics/out-frames-pfc	R

**Table 5–4—Mapping between IEEE Std 802.3, Clause 30 managed objects and *ieee802-ethernet-interface-half-duplex* YANG data nodes**

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-interface-half-duplex</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
oMACEntity	aRateControlAbility	30.3.1.1.33	interfaces/interface/ethernet	dynamic-rate-control	R/W
			interfaces/interface/ethernet/capability	dynamic-rate-control-supported	R
oPHYEntity	aSQETestErrors	30.3.2.1.4	interfaces/interface/ethernet/statistics/frame/csmacd{csma-cd}	in-errors-sqe-test	R
oMACEntity	aSingleCollisionFrames	30.3.1.1.3		out-frames-collision-single	R
	aMultipleCollisionFrames	30.3.1.1.4		out-frames-collision-multiple	R
	aFramesWithDeferredXmissions	30.3.1.1.9		out-frames-deferred	R
	aFramesAbortedDueToXSColls	30.3.1.1.11		out-frames-collisions-excessive	R
	aLateCollisions	30.3.1.1.10		out-collisions-late	R
	aCarrierSenseErrors	30.3.1.1.13		out-errors-carrier-sense	R
	aCollisionFrames	30.3.1.1.30		collision-histogram/collision-count	R
collision-histogram/collision-count-frames				R	



**Table 5–5—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-mac-merge* YANG data nodes**

IEEE Std 802.3, 30.14		Reference	Corresponding <i>ieee802-ethernet-mac-merge</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
oMacMergeEntity	aMACMergeSupport	30.14.1.1	Interfaces/interface/ethernet/mac-merge/admin-status	merge-support	R
	aMACMergeStatusVerify	30.14.1.2		verify-status	R
	aMACMergeStatusTx	30.14.1.5		status-tx	R
	aMACMergeEnableTx	30.14.1.3	Interfaces/interface/ethernet/mac-merge/admin-control	merge-enable-tx	R/W
	aMACMergeVerifyDisableTx	30.14.1.4		verify-disable-tx	R/W
	aMACMergeVerifyTime	30.14.1.6		verify-time	R/W
	aMACMergeAddFragSize	30.14.1.7		frag-size	R/W
	aMACMergeFrameAssErrorCount	30.14.1.8	Interfaces/interface/ethernet/mac-merge/statistics	assembly-error-count	R
	aMACMergeFrameSmdErrorCount	30.14.1.9		smd-error-count	R
	aMACMergeFrameAssOkCount	30.14.1.10		assembly-ok-count	R
	aMACMergeFragCountRx	30.14.1.11		fragment-count-rx	R
	aMACMergeFragCountTx	30.14.1.12		fragment-count-tx	R
	aMACMergeHoldCount	30.14.1.13		hold-count	R

**Table 5–6—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes**

IEEE Std 802.3, 30.14		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
oLldpXdot3Config	aLldpXdot3PortConfigTLVsTxEnable	30.12.1.1.1	lldp/port	tlvs-port-config-enable	R/W
oLldpXdot3LocSystemsGroup	aLldpXdot3LocPortAutoNegSupported	30.12.2.1.1		auto-negotiation-supported	R
	aLldpXdot3LocPortAutoNegEnabled	30.12.2.1.2		auto-negotiation-enabled	R
	aLldpXdot3LocPortAutoNegAdvertisedCap	30.12.2.1.3		auto-negotiation-cap	R
	aLldpXdot3LocPortOperMauType	30.12.2.1.4		operational-mau-type	R
	aLldpXdot3LocPowerPortClass	30.12.2.1.5		power-port-class	R
	aLldpXdot3LocPowerMDISupported	30.12.2.1.6		mdi-power-supported	R
	aLldpXdot3LocPowerMDIEnabled	30.12.2.1.7		mdi-power-enabled	R
	aLldpXdot3LocPowerPairControllable	30.12.2.1.8		power-pair-controllable	R
	aLldpXdot3LocPowerPairs	30.12.2.1.9		power-pairs	R
	aLldpXdot3LocPowerClass	30.12.2.1.10		local-power-class	R
	aLldpXdot3LocLinkAggStatus	30.12.2.1.11		link-aggregation-status	R
	aLldpXdot3LocLinkAggPortId	30.12.2.1.12		aggregation-port-id	R
	aLldpXdot3LocMaxFrameSize	30.12.2.1.13		local-max-frame-size	R
	aLldpXdot3LocPowerType	30.12.2.1.14		power-type	R
	aLldpXdot3LocPowerSource	30.12.2.1.15		power-source	R
	aLldpXdot3LocPowerPriority	30.12.2.1.16		local-power-priority	R/W
aLldpXdot3LocPDRequestedPowerValue	30.12.2.1.17	pd-requested-power-value	R		
<i>Editorial note (to be removed prior to publication): Continue when YANG has been updated from supporting 802.3-2015 to 802.3-2022</i>					

**Table 5–6—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes**

IEEE Std 802.3, 30.14		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
oLldpXdot3RemSystemsGroup	aLldpXdot3RemPortAutoNegSupported	30.12.3.1.1	lldp/port/remote-systems-data	auto-negotiation-supported	R
	aLldpXdot3RemPortAutoNegEnabled	30.12.3.1.2		auto-negotiation-enabled	R
	aLldpXdot3RemPortAutoNegAdvertisedCap	30.12.3.1.3		auto-negotiation-cap	R
	aLldpXdot3RemPortOperMauType	30.12.3.1.4		operational-mau-type	R
	aLldpXdot3RemPowerPortClass	30.12.3.1.5		power-port-class	R
	aLldpXdot3RemPowerMDISupported	30.12.3.1.6		mdi-power-supported	R
		aLldpXdot3RemPowerMDIEnabled	30.12.3.1.7		mdi-power-enabled
aLldpXdot3RemPowerPairControllable		30.12.3.1.8	power-pair-controllable		R
aLldpXdot3RemPowerPairs		30.12.3.1.9	power-pairs		R
aLldpXdot3RemPowerClass		30.12.3.1.10	power-class		R
aLldpXdot3RemLinkAggStatus		30.12.3.1.11	link-aggregation-status		R
aLldpXdot3RemLinkAggPortId		30.12.3.1.12	aggregation-port-id		R
aLldpXdot3RemMaxFrameSize		30.12.3.1.13	local-max-frame-size		R
aLldpXdot3RemPowerType		30.12.3.1.14	power-type		R
aLldpXdot3RemPowerSource		30.12.3.1.15	power-source		R
aLldpXdot3RemPowerPriority		30.12.3.1.16	power-priority		R/W
aLldpXdot3RemPDRrequestedPowerValue		30.12.3.1.17	pd-requested-power-value		R
<i>Editorial note (to be removed prior to publication): Continue when YANG has been updated from supporting 802.3-2015 to 802.3-2022</i>					

Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
oLldpXdot3Config oLldpXdot3LocSystemsGroup	aLldpXdot3PortConfigTLVsTxEnable	30.12.1.1.1	lldp/port	tlvs-port-config-enable	R/W
	aLldpXdot3LocPortAutoNegSupported	30.12.2.1.1		auto-negotiation-supported	R
	aLldpXdot3LocPortAutoNegEnabled	30.12.2.1.2		auto-negotiation-enabled	R
	aLldpXdot3LocPortAutoNegAdvertisedCap	30.12.2.1.3		auto-negotiation-cap	R
	aLldpXdot3LocPortOperMauType	30.12.2.1.4		operational-mau-type	R
	aLldpXdot3LocPowerPortClass	30.12.2.1.5		power-port-class	R
	aLldpXdot3LocPowerMDISupported	30.12.2.1.6		mdi-power-supported	R
	aLldpXdot3LocPowerMDIEnabled	30.12.2.1.7		mdi-power-enabled	R
	aLldpXdot3LocPowerPairControllable	30.12.2.1.8		power-pair-controlable	R

Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
	aLdpXdot3LocPowerPairs	30.12.2.1.9		power-pairs	R
	aLdpXdot3LocPowerClass	30.12.2.1.10		local-power-class	R
	aLdpXdot3LocLinkAggStatus	30.12.2.1.11		link-aggregation-status	R
	aLdpXdot3LocLinkAggPortId	30.12.2.1.12		aggregation-port-id	R
	aLdpXdot3LocMaxFrameSize	30.12.2.1.13		local-max-frame-size	R
	aLdpXdot3LocPowerType	30.12.2.1.14		power-type	R
	aLdpXdot3LocPowerSource	30.12.2.1.15		power-source	R
	aLdpXdot3LocPowerPriority	30.12.2.1.16		local-power-priority	R/W
	aLdpXdot3LocPDRequestedPowerValue	30.12.2.1.17		pd-requested-power-value	R
	aLdpXdot3LocPDRequestedPowerValueA	30.12.2.1.18		pd-requested-power-value-a	R
	aLdpXdot3LocPDRequestedPowerValueB	30.12.2.1.19		pd-requested-power-value-b	R
	aLdpXdot3LocPSEAllocatedPowerValue	30.12.2.1.20		pse-allocated-power-value	R
	aLdpXdot3LocPSEAllocatedPowerValueA	30.12.2.1.21		pse-allocated-power-value-a	R
	aLdpXdot3LocPSEAllocatedPowerValueB	30.12.2.1.22		pse-allocated-power-value-b	R

Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
	aLldpXdot3LocPSEPoweringStatus	30.12.2.1.23		pse-powering-status	R
	aLldpXdot3LocPDPoweredStatus	30.12.2.1.24		pd-powered-status	R
	aLldpXdot3LocPowerPairsExt	30.12.2.1.25		power-pairs-ext	R
	aLldpXdot3LocPowerClassExtA	30.12.2.1.26		power-class-ext-A	R
	aLldpXdot3LocPowerClassExtB	30.12.2.1.27		power-class-ext-B	R
	aLldpXdot3LocPowerClassExt	30.12.2.1.28		power-class-ext	R
	aLldpXdot3LocPowerTypeExt	30.12.2.1.29		power-type-ext	R
	aLldpXdot3LocPDLoad	30.12.2.1.30		pd-load	R
	aLldpXdot3LocPD4PID	30.12.2.1.31		pd-4pid	R
	aLldpXdot3LocPSEMaxAvailPower	30.12.2.1.32		pse-max-avail-power	R
	aLldpXdot3LocPSEAutoclassSupport	30.12.2.1.33		pse-autoclass-support	R
	aLldpXdot3LocAutoclassCompleted	30.12.2.1.34		autoclass-completed	R
	aLldpXdot3LocAutoclassRequest	30.12.2.1.35		autoclass-request	R
	aLldpXdot3LocPowerDownRequest	30.12.2.1.36		power-down-request	R
	aLldpXdot3LocPowerDownTime	30.12.2.1.37		power-down-time	R

Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
	aLldpXdot3LocMeasVoltageSupport	30.12.2.1.38		meas-voltage-support	R
	aLldpXdot3LocMeasCurrentSupport	30.12.2.1.39		meas-current-support	R
	aLldpXdot3LocMeasPowerSupport	30.12.2.1.40		meas-power-support	R
	aLldpXdot3LocMeasEnergySupport	30.12.2.1.41		meas-energy-support	R
	aLldpXdot3LocMeasurementSource	30.12.2.1.42		measurement-source	R
	aLldpXdot3LocMeasVoltageRequest	30.12.2.1.43		meas-voltage-request	R
	aLldpXdot3LocMeasCurrentRequest	30.12.2.1.44		meas-current-request	R
	aLldpXdot3LocMeasCurrentRequest	30.12.2.1.45		meas-power-request	R
	aLldpXdot3LocMeasEnergyRequest	30.12.2.1.46		meas-energy-request	R
	aLldpXdot3LocMeasVoltageValid	30.12.2.1.47		meas-voltage-valid	R
	aLldpXdot3LocMeasCurrentValid	30.12.2.1.48		meas-current-valid	R
	aLldpXdot3LocMeasPowerValid	30.12.2.1.49		meas-power-valid	R
	aLldpXdot3LocMeasEnergyValid	30.12.2.1.50		meas-energy-valid	R

Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
	aLldpXdot3LocMeasVoltageUncertainty	30.12.2.1.51		meas-voltage-uncertainty	R
	aLldpXdot3LocMeasCurrentUncertainty	30.12.2.1.52		meas-current-uncertainty	R
	aLldpXdot3LocMeasPowerUncertainty	30.12.2.1.53		meas-power-uncertainty	R
	aLldpXdot3LocMeasEnergyUncertainty	30.12.2.1.54		meas-energy-uncertainty	R
	aLldpXdot3LocVoltageMeasurement	30.12.2.1.55		voltage-measurement	R
	aLldpXdot3LocCurrentMeasurement	30.12.2.1.56		current-measurement	R
	aLldpXdot3LocPowerMeasurement	30.12.2.1.57		power-measurement	R
	aLldpXdot3LocEnergyMeasurement	30.12.2.1.58		energy-measurement	R
	aLldpXdot3LocPSEPowerPriceIndex	30.12.2.1.59		pse-power-price-index	R
	aLldpXdot3LocResponseTime	30.12.2.1.60		local-response	R
	aLldpXdot3LocReady	30.12.2.1.61		local-system-ready	R
	aLldpXdot3LocTxTwSys	30.12.2.1.62		tx-system-value	R



Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
	aLdpXdot3LocTxTwSysEcho	30.12.2.1.63		tx-system-value-echo	R
	aLdpXdot3LocRxTwSys	30.12.2.1.64		rx-system-value	R
	aLdpXdot3LocRxTwSysEcho	30.12.2.1.65		rx-system-value-echo	R
	aLdpXdot3LocFbTwSys	30.12.2.1.66		fallback-system-value	R
	aLdpXdot3TxDllReady	30.12.2.1.67		tx-dll-ready	R
	aLdpXdot3RxDllReady	30.12.2.1.68		rx-dll-ready	R
	aLdpXdot3LocDllEnabled	30.12.2.1.69		dll-ready	R
	aLdpXdot3LocTxFw	30.12.2.1.70		tx-system-fw	R
	aLdpXdot3LocTxFwEcho	30.12.2.1.71		tx-system-fw-echo	R
	aLdpXdot3LocRxFw	30.12.2.1.72		rx-system-fw	R
	aLdpXdot3LocRxFwEcho	30.12.2.1.73		rx-system-fw-echo	R
	aLdpXdot3LocPreemptSupported	30.12.2.1.74		preemption-supported	R
	aLdpXdot3LocPreemptEnabled	30.12.2.1.75		preemption-enabled	R
	aLdpXdot3LocPreemptActive	30.12.2.1.76		preemption-active	R
	aLdpXdot3LocAddFragSize	30.12.2.1.77		additional-fragment-size	R

**Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes**

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
oLldpXdot3RemSystemsGroup	aLldpXdot3RemPortAutoNegSupported	30.12.3.1.1	lldp/port/remote-systems-data	auto-negotiation-supported	R
	aLldpXdot3RemPortAutoNegEnabled	30.12.3.1.2		auto-negotiation-enabled	R
	aLldpXdot3RemPortAutoNegAdvertisedCap	30.12.3.1.3		auto-negotiation-cap	R
	aLldpXdot3RemPortOperMauType	30.12.3.1.4		operational-mau-type	R
	aLldpXdot3RemPowerPortClass	30.12.3.1.5		power-port-class	R
	aLldpXdot3RemPowerMDISupported	30.12.3.1.6		mdi-power-supported	R

Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
	aLdpXdot3RemPowerMDIEnabled	30.12.3.1.7		mdi-power-enabled	R
	aLdpXdot3RemPowerPairControllable	30.12.3.1.8		power-pair-controllable	R
	aLdpXdot3RemPowerPairs	30.12.3.1.9		power-pairs	R
	aLdpXdot3RemPowerClass	30.12.3.1.10		power-class	R
	aLdpXdot3RemLinkAggStatus	30.12.3.1.11		link-aggregation-status	R
	aLdpXdot3RemLinkAggPortId	30.12.3.1.12		aggregation-port-id	R
	aLdpXdot3RemMaxFrameSize	30.12.3.1.13		local-max-frame-size	R
	aLdpXdot3RemPowerType	30.12.3.1.14		power-type	R
	aLdpXdot3RemPowerSource	30.12.3.1.15		power-source	R
	aLdpXdot3RemPowerPriority	30.12.3.1.16		power-priority	RW
	aLdpXdot3RemPDRRequestedPowerValue	30.12.3.1.17		pd-requested-power-value	R
	aLdpXdot3RemPDRRequestedPowerValueA	30.12.3.1.18		pd-requested-power-value-a	R
	aLdpXdot3RemPDRRequestedPowerValueB	30.12.3.1.19		pd-requested-power-value-b	R
	aLdpXdot3RemPSEAllocatedPowerValue	30.12.3.1.20		pse-allocated-power-value	R
	aLdpXdot3RemPSEAllocatedPowerValueA	30.12.3.1.21		pse-allocated-power-value-a	R
	aLdpXdot3RemPSEAllocatedPowerValueB	30.12.3.1.22		pse-allocated-power-value-b	R

Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
	aLldpXdot3RemPSEPoweringStatus	30.12.3.1.23		pse-powering-status	R
	aLldpXdot3RemPDPoweredStatus	30.12.3.1.24		pd-powered-status	R
	aLldpXdot3RemPowerPairsExt	30.12.3.1.25		power-pairs-ext	R
	aLldpXdot3RemPowerClassExtA	30.12.3.1.26		power-class-ext-A	R
	aLldpXdot3RemPowerClassExtB	30.12.3.1.27		power-class-ext-B	R
	aLldpXdot3RemPowerClassExt	30.12.3.1.28		power-class-ext	R
	aLldpXdot3RemPowerTypeExt	30.12.3.1.29		power-type-ext	R
	aLldpXdot3RemPDLoad	30.12.3.1.30		pd-load	R
	aLldpXdot3RemPD4PID	30.12.3.1.31		pd-4pid	R
	aLldpXdot3RemPSEMaxAvailPower	30.12.3.1.32		pse-max-avail-power	R
	aLldpXdot3RemPSEAutoclassSupport	30.12.3.1.33		pse-autoclass-support	R
	aLldpXdot3RemAutoclassCompleted	30.12.3.1.34		autoclass-completed	R
	aLldpXdot3RemAutoclassRequest	30.12.3.1.35		autoclass-request	R
	aLldpXdot3RemPowerDownRequest	30.12.3.1.36		power-down-request	R
	aLldpXdot3RemPowerDownTime	30.12.3.1.37		power-down-time	R

Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
	aLldpXdot3RemMeasVoltageSupport	30.12.3.1.38		meas-voltage-support	R
	aLldpXdot3RemMeasCurrentSupport	30.12.3.1.39		meas-current-support	R
	aLldpXdot3RemMeasPowerSupport	30.12.3.1.40		meas-power-support	R
	aLldpXdot3RemMeasEnergySupport	30.12.3.1.41		meas-energy-support	R
	aLldpXdot3RemMeasurementSource	30.12.3.1.42		measurement-source	R
	aLldpXdot3RemMeasVoltageRequest	30.12.3.1.43		meas-voltage-request	R
	aLldpXdot3RemMeasCurrentRequest	30.12.3.1.44		meas-current-request	R
	aLldpXdot3RemMeasCurrentRequest	30.12.3.1.45		meas-power-request	R
	aLldpXdot3RemMeasEnergyRequest	30.12.3.1.46		meas-energy-request	R
	aLldpXdot3RemMeasVoltageValid	30.12.3.1.47		meas-voltage-valid	R
	aLldpXdot3RemMeasCurrentValid	30.12.3.1.48		meas-current-valid	R
	aLldpXdot3RemMeasPowerValid	30.12.3.1.49		meas-power-valid	R
	aLldpXdot3RemMeasEnergyValid	30.12.3.1.50		meas-energy-valid	R

Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
	aLdpXdot3RemMeasVoltageUncertainty	30.12.3.1.51		meas-voltage-uncertainty	R
	aLdpXdot3RemMeasCurrentUncertainty	30.12.3.1.52		meas-current-uncertainty	R
	aLdpXdot3RemMeasPowerUncertainty	30.12.3.1.53		meas-power-uncertainty	R
	aLdpXdot3RemMeasEnergyUncertainty	30.12.3.1.54		meas-energy-uncertainty	R
	aLdpXdot3RemVoltageMeasurement	30.12.3.1.55		voltage-measurement	R
	aLdpXdot3RemCurrentMeasurement	30.12.3.1.56		current-measurement	R
	aLdpXdot3RemPowerMeasurement	30.12.3.1.57		power-measurement	R
	aLdpXdot3RemEnergyMeasurement	30.12.3.1.58		energy-measurement	R
	aLdpXdot3RemPSEPowerPriceIndex	30.12.3.1.59		pse-power-price-index	R
	aLdpXdot3RemTxTwSys	30.12.3.1.60		tx-system-value	R
	aLdpXdot3RemTxTwSysEcho	30.12.3.1.61		tx-system-value-echo	R
	aLdpXdot3RemRxTwSys	30.12.3.1.62		rx-system-value	R

Table 5–7—Mapping between IEEE Std 802.3, 30.14 managed objects and *ieee802-ethernet-lldp* YANG data nodes

IEEE Std 802.3, Clause 30		Reference	Corresponding <i>ieee802-ethernet-lldp</i> YANG data nodes		
Managed object(s)	Attribute(s)		Container(s)	Data node(s)	R/W
	aLldpXdot3RemRxTwSysEcho	30.12.3.1.63		rx-system-value-echo	R
	aLldpXdot3RemFbTwSys	30.12.3.1.64		fallback-system-value	R
	aLldpXdot3RemTxFw	30.12.3.1.65		tx-system-fw	R
	aLldpXdot3RemTxFwEcho	30.12.3.1.66		tx-system-fw-echo	R
	aLldpXdot3RemRxFw	30.12.3.1.67		rx-system-fw	R
	aLldpXdot3RemRxFwEcho	30.12.3.1.68		rx-system-fw-echo	R
	aLldpXdot3RemPreemptSupported	30.12.3.1.69		preemption-supported	R
	aLldpXdot3RemPreemptEnabled	30.12.3.1.70		preemption-enabled	R
	aLldpXdot3RemPreemptActive	30.12.3.1.71		preemption-active	R
	aLldpXdot3RemAddFragSize	30.12.3.1.72		additional-fragment-size	R

## 5.3 YANG module definition<sup>j</sup>

The YANG module tree hierarchy uses terms defined in IETF RFC 8407.

### 5.3.1 Tree hierarchy

```

module: ieee802-ethernet-interface
  augment /if:interfaces/if:interface:
    +--rw ethernet
      +--rw auto-negotiation!
        | +--rw enable?                boolean
        | +--ro negotiation-status?    enumeration
      +--rw duplex?                    duplex-type
      +--rw speed?                     eth-if-speed-type
      +--rw flow-control
        | +--rw pause {ethernet-pause}?
        | | +--rw direction?          pause-fc-direction-type
        | | +--ro statistics
        | |   +--ro in-frames-pause?   yang:counter64
        | |   +--ro out-frames-pause?  yang:counter64
        | +--rw pfc {ethernet-pfc}?
        | | +--rw enable?              boolean
        | | +--ro statistics
        | |   +--ro in-frames-pfc?     yang:counter64
        | |   +--ro out-frames-pfc?    yang:counter64
        | +--rw force-flow-control?    boolean
      +--ro max-frame-length?          uint16
      +--ro mac-control-extension-control? boolean
      +--ro frame-limit-slow-protocol? uint64
      +--ro capabilities
        | +--ro auto-negotiation?      boolean
      +--ro statistics
        +--ro frame
          | +--ro in-total-frames?      yang:counter64
          | +--ro in-total-octets?      yang:counter64
          | +--ro in-frames?            yang:counter64
          | +--ro in-multicast-frames?  yang:counter64
          | +--ro in-broadcast-frames?  yang:counter64
          | +--ro in-error-fcs-frames?  yang:counter64
          | +--ro in-error-undersize-frames? yang:counter64
          | +--ro in-error-oversize-frames? yang:counter64
          | +--ro in-error-mac-internal-frames? yang:counter64
          | +--ro out-frames?           yang:counter64
          | +--ro out-multicast-frames? yang:counter64
          | +--ro out-broadcast-frames? yang:counter64
          | +--ro out-error-mac-internal-frames? yang:counter64
        +--ro phy
          | +--ro in-error-symbol?      yang:counter64
          | +--ro lpi
          | | +--ro in-lpi-transitions? yang:counter64
          | | +--ro in-lpi-time?        decimal64

```

<sup>j</sup>Copyright release for YANG modules: Users of this standard may freely reproduce the YANG module contained in this subclause so that it can be used for its intended purpose.



```

1      |      +--ro out-lpi-transitions?      yang:counter64
2      |      +--ro out-lpi-time?            decimal64
3      +--ro mac-control
4          +--ro in-frames-mac-control-unknown?      yang:counter64
5          +--ro in-frames-mac-control-extension?    yang:counter64
6          +--ro out-frames-mac-control-extension?    yang:counter64
7
8
9
10     module: ieee802-ethernet-interface-half-duplex
11         augment /if:interfaces/if:interface/ieee802-eth-if:ethernet:
12             +--rw dynamic-rate-control?      dynamic-rate-control-type {dynamic-
13 rate-control}?
14             augment /if:interfaces/if:interface/ieee802-eth-if:ethernet/ieee802-
15 eth-if:capabilities:
16                 +--ro dynamic-rate-control-supported?      boolean {dynamic-rate-con-
17 trol}?
18                 augment /if:interfaces/if:interface/ieee802-eth-if:ethernet/ieee802-
19 eth-if:statistics/ieee802-eth-if:frame:
20                     +--ro csma-cd {csma-cd}?
21                         +--ro in-errors-sqe-test?            yang:counter64
22                         +--ro out-frames-collision-single?    yang:counter64
23                         +--ro out-frames-collision-multiple?  yang:counter64
24                         +--ro out-frames-deferred?            yang:counter64
25                         +--ro out-frames-collisions-excessive? yang:counter64
26                         +--ro out-collisions-late?            yang:counter64
27                         +--ro out-errors-carrier-sense?       yang:counter64
28                         +--ro collision-histogram* [collision-count]
29                         +--ro collision-count                  yang:counter64
30                         +--ro collision-count-frames?          yang:counter64
31
32
33
34
35
36     module ieee802-ethernet-mac-merge
37         augment /if:interfaces/if:interface/ieee802-eth-if:ethernet:
38             +--rw mac-merge {mac-merge}?
39             +--rw admin-control
40                 | +--rw merge-enable-tx?      enumeration
41                 | +--rw verify-disable-tx?    enumeration
42                 | +--rw verify-time?          uint16
43                 | +--rw frag-size?            uint16uint8
44                 +--ro admin-status
45                     | +--ro merge-support?    enumeration
46                     | +--ro verify-status?    enumeration
47                     | +--ro status-tx?        enumeration
48                 +--ro statistics
49                     | +--ro assembly-error-count?      yang:counter64
50                     | +--ro smd-error-count?           yang:counter64
51                     | +--ro assembly-ok-count?         yang:counter64
52                     | +--ro fragment-count-rx?         yang:counter64
53                     | +--ro fragment-count-tx?         yang:counter64
54                     | +--ro hold-count?                yang:counter64
55
56
57
58
59
60     module: ieee802-dot1abethernet-lldp
61
62         augment /lldp:lldp/lldp:port:
63             +--rw tlvs-port-config-enable?      bits
64             +--ro auto-negotiation-supported?    boolean

```

1	<u>++ro auto-negotiation-enabled?</u>	<u>boolean</u>
2	<u>++ro auto-negotiation-cap?</u>	<u>binary</u>
3	<u>++ro operational-mau-type?</u>	<u>int32</u>
4	<u>++ro power-port-class?</u>	<u>port-class-type</u>
5	<u>++ro mdi-power-supported?</u>	<u>boolean</u>
6	<u>++ro mdi-power-enabled?</u>	<u>boolean</u>
7	<u>++ro power-pair-controlable?</u>	<u>boolean</u>
8	<u>++ro power-pairs?</u>	<u>pse-pinout-type</u>
9	<u>++ro local-power-class?</u>	<u>pse-power-class-type</u>
10	<u>++ro link-aggregation-status?</u>	<u>bits</u>
11	<u>++ro aggregation-port-id?</u>	<u>int32</u>
12	<u>++ro local-max-frame-size?</u>	<u>int32</u>
13	<u>++ro power-type?</u>	<u>bits</u>
14	<u>++ro power-source?</u>	<u>power-source-type</u>
15	<u>++rw local-power-priority?</u>	<u>power-priority-type</u>
16	<u>++ro pd-requested-power-value?</u>	<u>int32</u>
17	<u>++ro pd-requested-power-value-a?</u>	<u>int32</u>
18	<u>++ro pd-requested-power-value-b?</u>	<u>int32</u>
19	<u>++ro pse-allocated-power-value?</u>	<u>int32</u>
20	<u>++ro pse-allocated-power-value-a?</u>	<u>int32</u>
21	<u>++ro pse-allocated-power-value-b?</u>	<u>int32</u>
22	<u>++ro pse-powering-status?</u>	<u>powering-status-type</u>
23	<u>++ro pd-powered-status?</u>	<u>powered-status-type</u>
24	<u>++ro power-pairs-ext?</u>	<u>power-pairs-type</u>
25	<u>++ro power-class-ext-A?</u>	<u>power-class-ext-AB-type</u>
26	<u>++ro power-class-ext-B?</u>	<u>power-class-ext-AB-type</u>
27	<u>++ro power-class-ext?</u>	<u>power-class-ext-type</u>
28	<u>++ro power-type-ext?</u>	<u>power-type</u>
29	<u>++ro pd-load?</u>	<u>boolean</u>
30	<u>++ro pd-4pid?</u>	<u>boolean</u>
31	<u>++ro pse-max-avail-power?</u>	<u>int32</u>
32	<u>++ro pse-autoclass-support?</u>	<u>boolean</u>
33	<u>++ro autoclass-completed?</u>	<u>boolean</u>
34	<u>++ro autoclass-request?</u>	<u>boolean</u>
35	<u>++rw power-down-request?</u>	<u>int32</u>
36	<u>++rw power-down-time?</u>	<u>int32</u>
37	<u>++ro meas-voltage-support?</u>	<u>boolean</u>
38	<u>++ro meas-current-support?</u>	<u>boolean</u>
39	<u>++ro meas-power-support?</u>	<u>boolean</u>
40	<u>++ro meas-energy-support?</u>	<u>boolean</u>
41	<u>++rw measurement-source?</u>	<u>bits</u>
42	<u>++ro meas-voltage-request?</u>	<u>boolean</u>
43	<u>++ro meas-current-request?</u>	<u>boolean</u>
44	<u>++ro meas-power-request?</u>	<u>boolean</u>
45	<u>++ro meas-energy-request?</u>	<u>boolean</u>
46	<u>++ro meas-voltage-valid?</u>	<u>boolean</u>
47	<u>++ro meas-current-valid?</u>	<u>boolean</u>
48	<u>++ro meas-power-valid?</u>	<u>boolean</u>
49	<u>++ro meas-energy-valid?</u>	<u>boolean</u>
50	<u>++ro meas-voltage-uncertainty?</u>	<u>int32</u>
51	<u>++ro meas-current-uncertainty?</u>	<u>int32</u>
52	<u>++ro meas-power-uncertainty?</u>	<u>int32</u>
53	<u>++ro meas-energy-uncertainty?</u>	<u>int32</u>
54	<u>++ro voltage-measurement?</u>	<u>int32</u>

```

1  +--ro current-measurement?          int32
2  +--ro power-measurement?           int32
3  +--ro energy-measurement?          int32
4  +--ro pse-power-price-index?       int32
5  +--ro local-response?              int32
6  +--ro local-system-ready?          boolean
7  +--ro tx-system-value?             int32
8  +--ro tx-system-value-echo?        int32
9  +--ro rx-system-value?             int32
10 +--ro rx-system-value-echo?        int32
11 +--ro fallback-system-value?       int32
12 +--ro tx-dll-ready?               boolean
13 +--ro rx-dll-ready?               boolean
14 +--ro dll-enabled?                boolean
15 +--ro tx-system-fw?               boolean
16 +--ro tx-system-fw-echo?          boolean
17 +--ro rx-system-fw?               boolean
18 +--ro rx-system-fw-echo?          boolean
19 +--ro preemption-supported?        boolean
20 +--ro preemption-enabled?          boolean
21 +--ro preemption-active?          boolean
22 +--ro additional-fragment-size?    int32
23 augment /lldp:lldp/lldp:port/lldp:remote-systems-data:
24 +--ro auto-negotiation-supported?  boolean
25 +--ro auto-negotiation-enabled?    boolean
26 +--ro auto-negotiation-cap?        binary
27 +--ro operational-mau-type?        int32
28 +--ro power-port-class?            port-class-type
29 +--ro mdi-power-supported?         boolean
30 +--ro mdi-power-enabled?           boolean
31 +--ro power-pair-controlable?      boolean
32 +--ro power-pairs?                 pse-pinout-type
33 +--ro power-class?                 pse-power-class-type
34 +--ro link-aggregation-status?     bits
35 +--ro aggregation-port-id?         int32
36 +--ro local-max-frame-size?        int32
37 +--ro power-type?                  bits
38 +--ro power-source?                power-source-type
39 +--ro power-priority?              power-priority-type
40 +--ro pd-requested-power-value?    int32
41 +--ro pd-requested-power-value-a?  int32
42 +--ro pd-requested-power-value-b?  int32
43 +--ro pse-allocated-power-value?   int32
44 +--ro pse-allocated-power-value-a? int32
45 +--ro pse-allocated-power-value-b? int32
46 +--ro pse-powering-status?         powering-status-type
47 +--ro pd-powered-status?           powered-status-type
48 +--ro power-pairs-ext?             power-pairs-type
49 +--ro power-class-ext-A?           power-class-ext-AB-type
50 +--ro power-class-ext-B?           power-class-ext-AB-type
51 +--ro power-class-ext?             power-class-ext-type
52 +--ro power-type-ext?              power-type
53 +--ro pd-load?                     boolean
54 +--ro pd-4pid?                     boolean

```

```

1  +--ro pse-max-avail-power?          int32
2  +--ro pse-autoclass-support?        boolean
3  +--ro autoclass-completed?          boolean
4  +--ro autoclass-request?            boolean
5  +--ro power-down-request?            int32
6  +--ro power-down-time?              int32
7  +--ro meas-voltage-support?          boolean
8  +--ro meas-current-support?          boolean
9  +--ro meas-power-support?            boolean
10 +--ro meas-energy-support?            boolean
11 +--ro measurement-source?            bits
12 +--ro meas-voltage-request?          boolean
13 +--ro meas-current-request?          boolean
14 +--ro meas-power-request?            boolean
15 +--ro meas-energy-request?            boolean
16 +--ro meas-voltage-valid?            boolean
17 +--ro meas-current-valid?            boolean
18 +--ro meas-power-valid?              boolean
19 +--ro meas-energy-valid?              boolean
20 +--ro meas-voltage-uncertainty?      int32
21 +--ro meas-current-uncertainty?      int32
22 +--ro meas-power-uncertainty?        int32
23 +--ro meas-energy-uncertainty?        int32
24 +--ro voltage-measurement?            int32
25 +--ro current-measurement?            int32
26 +--ro power-measurement?              int32
27 +--ro energy-measurement?             int32
28 +--ro pse-power-price-index?          int32
29 +--ro tx-system-value?                int32
30 +--ro tx-system-value-echo?           int32
31 +--ro rx-system-value?                int32
32 +--ro rx-system-value-echo?           int32
33 +--ro fallback-system-value?          int32
34 +--ro tx-system-fw?                  boolean
35 +--ro tx-system-fw-echo?              boolean
36 +--ro rx-system-fw?                  boolean
37 +--ro rx-system-fw-echo?              boolean
38 +--ro preemption-supported?           boolean
39 +--ro preemption-enabled?             boolean
40 +--ro preemption-active?              boolean
41 +--ro additional-fragment-size?       int32
42
43 module: ieee802-dot1ab-lldp
44 +--rw lldp
45   +--rw message-fast-tx?               uint32
46   +--rw message-tx-hold-multiplier?    uint32
47   +--rw message-tx-interval?           uint32
48   +--rw reinit-delay?                  uint32
49   +--rw tx-credit-max?                 uint32
50   +--rw tx-fast-init?                  uint32
51   +--rw notification-interval?         uint32
52   +--ro remote-statistics
53     | +--ro last-change-time?          yang:timestamp
54     | +--ro remote-inserts?            yang:zero-based-counter32

```

```

1      | +--ro remote-deletes?      yang:zero-based-counter32
2      | +--ro remote-drops?      yang:zero-based-counter32
3      | +--ro remote-ageouts?    yang:zero-based-counter32
4      +--ro local-system-data
5      | +--ro chassis-id-subtype?      ieee:chassis-id-subtype-
6      type
7      | +--ro chassis-id?            ieee:chassis-id-type
8      | +--ro system-name?          string
9      | +--ro system-description?    string
10     | +--ro system-capabilities-supported? lldp-types:system-capabil-
11     ities-map
12     | +--ro system-capabilities-enabled? lldp-types:system-capabil-
13     ities-map
14     +--rw port* [name dest-mac-address]
15     +--rw name                      if:interface-
16     ref
17     +--rw dest-mac-address          ieee:mac-
18     address
19     +--rw admin-status?             enumeration
20     +--rw notification-enable?      boolean
21     +--rw tlvs-tx-enable?           bits
22     +--rw message-fast-tx?          uint32
23     +--rw message-tx-hold-multiplier? uint32
24     +--rw message-tx-interval?      uint32
25     +--rw reinit-delay?             uint32
26     +--rw tx-credit-max?            uint32
27     +--rw tx-fast-init?             uint32
28     +--rw notification-interval?    uint32
29     +--rw management-address-tx-port* [address-subtype man-address]
30     | +--rw address-subtype        identityref
31     | +--rw man-address            lldp-types:man-addr-type
32     | +--rw tx-enable?             boolean
33     | +--ro addr-len?              uint32
34     | +--ro if-subtype?            lldp-types:man-addr-if-subtype
35     | +--ro if-id?                uint32
36     +--ro port-id-subtype?          ieee:port-
37     id-subtype-type
38     +--ro port-id?                 ieee:port-
39     id-type
40     +--ro port-desc?               string
41     +--ro tx-statistics
42     | +--ro total-frames?          yang:counter32
43     | +--ro total-length-errors?   yang:counter32
44     +--ro rx-statistics
45     | +--ro total-ageouts?         yang:zero-based-counter32
46     | +--ro total-discarded-frames? yang:counter32
47     | +--ro error-frames?          yang:counter32
48     | +--ro total-frames?          yang:counter32
49     | +--ro total-discarded-tlvs?   yang:counter32
50     | +--ro total-unrecognized-tlvs? yang:counter32
51     +--ro remote-systems-data* [time-mark remote-index]
52     | +--ro time-mark
53     yang:timeticks
54     | +--ro remote-index          uint32

```

```

1          | +--ro remote-too-many-neighbors?          boolean
2          | +--ro remote-changes?                    boolean
3          | +--ro chassis-id-subtype?                 ieee:chas-
4 sis-id-subtype-type
5          | +--ro chassis-id?                         ieee:chas-
6 sis-id-type
7          | +--ro port-id-subtype?                   ieee:port-
8 id-subtype-type
9          | +--ro port-id?                           ieee:port-
10 id-type
11         | +--ro port-desc?                          string
12         | +--ro system-name?                        string
13         | +--ro system-description?                 string
14         | +--ro system-capabilities-supported?      lldp-
15 types:system-capabilities-map
16         | +--ro system-capabilities-enabled?        lldp-
17 types:system-capabilities-map
18         | +--ro management-address* [address-subtype address]
19         | | +--ro address-subtype identityref
20         | | +--ro address lldp-types:man-addr-type
21         | | +--ro if-subtype? lldp-types:man-addr-if-subtype
22         | | +--ro if-id? uint32
23         | +--ro remote-unknown-tlv* [tlv-type]
24         | | +--ro tlv-type uint32
25         | | +--ro tlv-info? binary
26         | +--ro remote-org-defined-info* [info-identifier info-subtype
27 info-index]
28         | | +--ro info-identifier uint32
29         | | +--ro info-subtype uint32
30         | | +--ro info-index uint32
31         | | +--ro remote-info? binary
32         | +--ro ieee802-eth-lldp:auto-negotiation-supported? boolean
33         | +--ro ieee802-eth-lldp:auto-negotiation-enabled? boolean
34         | +--ro ieee802-eth-lldp:auto-negotiation-cap? binary
35         | +--ro ieee802-eth-lldp:operational-mau-type? int32
36         | +--ro ieee802-eth-lldp:power-port-class? port-
37 class-type
38         | +--ro ieee802-eth-lldp:mdi-power-supported? boolean
39         | +--ro ieee802-eth-lldp:mdi-power-enabled? boolean
40         | +--ro ieee802-eth-lldp:power-pair-controlable? boolean
41         | +--ro ieee802-eth-lldp:power-pairs? pse-pin-
42 out-type
43         | +--ro ieee802-eth-lldp:power-class? pse-power-
44 class-type
45         | +--ro ieee802-eth-lldp:link-aggregation-status? bits
46         | +--ro ieee802-eth-lldp:aggregation-port-id? int32
47         | +--ro ieee802-eth-lldp:local-max-frame-size? int32
48         | +--ro ieee802-eth-lldp:power-type? bits
49         | +--ro ieee802-eth-lldp:power-source? power-
50 source-type
51         | +--ro ieee802-eth-lldp:power-priority? power-
52 priority-type
53         | +--ro ieee802-eth-lldp:pd-requested-power-value? int32
54         | +--ro ieee802-eth-lldp:pse-allocated-power-value? int32
55

```

```

1      |  +--ro ieee802-eth-lldp:tx-system-value?          int32
2      |  +--ro ieee802-eth-lldp:tx-system-value-echo?    int32
3      |  +--ro ieee802-eth-lldp:rx-system-value?          int32
4      |  +--ro ieee802-eth-lldp:rx-system-value-echo?    int32
5      |  +--ro ieee802-eth-lldp:fallback-system-value?    int32
6      |  +--ro ieee802-eth-lldp:tx-system-fw?            boolean
7      |  +--ro ieee802-eth-lldp:tx-system-fw-echo?       boolean
8      |  +--ro ieee802-eth-lldp:rx-system-fw?            boolean
9      |  +--ro ieee802-eth-lldp:rx-system-fw-echo?       boolean
10     |  +--ro ieee802-eth-lldp:preemption-supported?     boolean
11     |  +--ro ieee802-eth-lldp:preemption-enabled?      boolean
12     |  +--ro ieee802-eth-lldp:preemption-active?       boolean
13     |  +--ro ieee802-eth-lldp:additional-fragment-size? int32
14     |  +--rw ieee802-eth-lldp:tlvs-port-config-enable?  bits
15     |  +--ro ieee802-eth-lldp:auto-negotiation-supported? boolean
16     |  +--ro ieee802-eth-lldp:auto-negotiation-enabled? boolean
17     |  +--ro ieee802-eth-lldp:auto-negotiation-cap?     binary
18     |  +--ro ieee802-eth-lldp:operational-mau-type?     int32
19     |  +--ro ieee802-eth-lldp:power-port-class?         port-
20
21     class-type
22     |  +--ro ieee802-eth-lldp:mdi-power-supported?       boolean
23     |  +--ro ieee802-eth-lldp:mdi-power-enabled?         boolean
24     |  +--ro ieee802-eth-lldp:power-pair-controlable?    boolean
25     |  +--ro ieee802-eth-lldp:power-pairs?               pse-pinout-
26
27     type
28     |  +--ro ieee802-eth-lldp:local-power-class?         pse-power-
29
30     class-type
31     |  +--ro ieee802-eth-lldp:link-aggregation-status?   bits
32     |  +--ro ieee802-eth-lldp:aggregation-port-id?       int32
33     |  +--ro ieee802-eth-lldp:local-max-frame-size?      int32
34     |  +--ro ieee802-eth-lldp:power-type?                bits
35     |  +--ro ieee802-eth-lldp:power-source?              power-
36
37     source-type
38     |  +--rw ieee802-eth-lldp:local-power-priority?      power-
39
40     priority-type
41     |  +--ro ieee802-eth-lldp:pd-requested-power-value?  int32
42     |  +--ro ieee802-eth-lldp:pse-allocated-power-value? int32
43     |  +--ro ieee802-eth-lldp:local-response-time?       int32
44     |  +--ro ieee802-eth-lldp:local-system-ready?        boolean
45     |  +--ro ieee802-eth-lldp:reduced-operation-power-value? int32
46     |  +--ro ieee802-eth-lldp:tx-system-value?          int32
47     |  +--ro ieee802-eth-lldp:tx-system-value-echo?      int32
48     |  +--ro ieee802-eth-lldp:rx-system-value?          int32
49     |  +--ro ieee802-eth-lldp:rx-system-value-echo?      int32
50     |  +--ro ieee802-eth-lldp:fallback-system-value?     int32
51     |  +--ro ieee802-eth-lldp:tx-dll-ready?              boolean
52     |  +--ro ieee802-eth-lldp:rx-dll-ready?              boolean
53     |  +--ro ieee802-eth-lldp:dll-enabled?               boolean
54     |  +--ro ieee802-eth-lldp:tx-system-fw?              boolean
55     |  +--ro ieee802-eth-lldp:tx-system-fw-echo?         boolean
56     |  +--ro ieee802-eth-lldp:rx-system-fw?              boolean
57     |  +--ro ieee802-eth-lldp:rx-system-fw-echo?         boolean
58     |  +--ro ieee802-eth-lldp:preemption-supported?      boolean
59     |  +--ro ieee802-eth-lldp:preemption-enabled?        boolean
60
61
62
63
64
65

```

```

1      +--ro ieee802-eth-lldp:preemption-active?          boolean
2      +--ro ieee802-eth-lldp:additional-fragment-size?   int32
3
4  notifications:
5      +---n remote-table-change
6          +--ro remote-insert?    -> /lldp/remote-statistics/remote-inserts
7          +--ro remote-delete?    -> /lldp/remote-statistics/remote-deletes
8          +--ro remote-drops?     -> /lldp/remote-statistics/remote-drops
9          +--ro remote-ageouts?   -> /lldp/remote-statistics/remote-ageouts
10
11
12
13 module: ietf-interfaces
14     +--rw interfaces
15         | +--rw interface* [name]
16         |     +--rw name                string
17         |     +--rw description?        string
18         |     +--rw type                identityref
19         |     +--rw enabled?            boolean
20         |     +--rw link-up-down-trap-enable? enumeration {if-mib}?
21         |     +--ro admin-status        enumeration {if-mib}?
22         |     +--ro oper-status         enumeration
23         |     +--ro last-change?        yang:date-and-time
24         |     +--ro if-index            int32 {if-mib}?
25         |     +--ro phys-address?       yang:phys-address
26         |     +--ro higher-layer-if*    interface-ref
27         |     +--ro lower-layer-if*     interface-ref
28         |     +--ro speed?              yang:gauge64
29         |     +--ro statistics
30         |         +--ro discontinuity-time yang:date-and-time
31         |         +--ro in-octets?        yang:counter64
32         |         +--ro in-unicast-pkts?   yang:counter64
33         |         +--ro in-broadcast-pkts? yang:counter64
34         |         +--ro in-multicast-pkts? yang:counter64
35         |         +--ro in-discards?       yang:counter32
36         |         +--ro in-errors?         yang:counter32
37         |         +--ro in-unknown-protos? yang:counter32
38         |         +--ro out-octets?        yang:counter64
39         |         +--ro out-unicast-pkts?   yang:counter64
40         |         +--ro out-broadcast-pkts? yang:counter64
41         |         +--ro out-multicast-pkts? yang:counter64
42         |         +--ro out-discards?       yang:counter32
43         |         +--ro out-errors?         yang:counter32
44
45     x--ro interfaces-state
46         x--ro interface* [name]
47         x--ro name                string
48         x--ro type                identityref
49         x--ro admin-status        enumeration {if-mib}?
50         x--ro oper-status         enumeration
51         x--ro last-change?        yang:date-and-time
52         x--ro if-index            int32 {if-mib}?
53         x--ro phys-address?       yang:phys-address
54         x--ro higher-layer-if*    interface-state-ref
55         x--ro lower-layer-if*     interface-state-ref
56         x--ro speed?              yang:gauge64
57         x--ro statistics

```



```

1          x--ro discontinuity-time      yang:date-and-time
2          x--ro in-octets?              yang:counter64
3          x--ro in-unicast-pkts?        yang:counter64
4          x--ro in-broadcast-pkts?      yang:counter64
5          x--ro in-multicast-pkts?      yang:counter64
6          x--ro in-discards?            yang:counter32
7          x--ro in-errors?              yang:counter32
8          x--ro in-unknown-protos?      yang:counter32
9          x--ro out-octets?              yang:counter64
10         x--ro out-unicast-pkts?        yang:counter64
11         x--ro out-broadcast-pkts?      yang:counter64
12         x--ro out-multicast-pkts?      yang:counter64
13         x--ro out-discards?            yang:counter32
14         x--ro out-errors?              yang:counter32
15
16 module: ietf-routing
17     +--rw routing
18     |   +--rw router-id?                yang:dotted-quad {router-id}?
19     |   +--ro interfaces
20     |   |   +--ro interface*            if:interface-ref
21     |   +--rw control-plane-protocols
22     |   |   +--rw control-plane-protocol* [type name]
23     |   |   |   +--rw type                identityref
24     |   |   |   +--rw name                string
25     |   |   |   +--rw description?        string
26     |   |   +--rw static-routes
27     |   +--rw ribs
28     |   |   +--rw rib* [name]
29     |   |   |   +--rw name                string
30     |   |   |   +--rw address-family      identityref
31     |   |   |   +--ro default-rib?        boolean {multiple-ribs}?
32     |   |   |   +--ro routes
33     |   |   |   |   +--ro route* []
34     |   |   |   |   |   +--ro route-preference?    route-preference
35     |   |   |   |   |   +--ro next-hop
36     |   |   |   |   |   |   +--ro (next-hop-options)
37     |   |   |   |   |   |   |   +--:(simple-next-hop)
38     |   |   |   |   |   |   |   |   +--ro outgoing-interface?    if:interface-ref
39     |   |   |   |   |   |   |   |   +--:(special-next-hop)
40     |   |   |   |   |   |   |   |   |   +--ro special-next-hop?    enumeration
41     |   |   |   |   |   |   |   |   |   +--:(next-hop-list)
42     |   |   |   |   |   |   |   |   |   |   +--ro next-hop-list
43     |   |   |   |   |   |   |   |   |   |   |   +--ro next-hop* []
44     |   |   |   |   |   |   |   |   |   |   |   +--ro outgoing-interface?    if:interface-
45     |   |   |   |   |   |   |   |   |   |   |   ref
46     |   |   |   |   |   |   |   |   |   |   |   |   +--ro source-protocol    identityref
47     |   |   |   |   |   |   |   |   |   |   |   |   +--ro active?              empty
48     |   |   |   |   |   |   |   |   |   |   |   |   +--ro last-updated?        yang:date-and-time
49     |   |   |   |   |   |   |   |   |   |   |   |   +---x active-route
50     |   |   |   |   |   |   |   |   |   |   |   |   |   +--ro output
51     |   |   |   |   |   |   |   |   |   |   |   |   |   |   +--ro route
52     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   +--ro next-hop
53     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   +--ro (next-hop-options)
54     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   +--:(simple-next-hop)
55

```

```

1      |      |      |      |  +--ro outgoing-interface?  if:interface-ref
2      |      |      |      |  +--:(special-next-hop)
3      |      |      |      |  |  +--ro special-next-hop?      enumeration
4      |      |      |      |  +--:(next-hop-list)
5      |      |      |      |  +--ro next-hop-list
6      |      |      |      |  +--ro next-hop* []
7      |      |      |      |  +--ro outgoing-interface?  if:inter-
8      |      |      |      |
9  face-ref
10
11      |      |      +--ro source-protocol  identityref
12      |      |      +--ro active?          empty
13      |      |      +--ro last-updated?    yang:date-and-time
14      |      |  +--rw description?          string
15  o--ro routing-state
16      +--ro router-id?                      yang:dotted-quad
17  o--ro interfaces
18      |  o--ro interface*  if:interface-state-ref
19  o--ro control-plane-protocols
20      |  o--ro control-plane-protocol* [type name]
21      |      o--ro type  identityref
22      |      o--ro name  string
23  o--ro ribs
24      o--ro rib* [name]
25          o--ro name  string
26          +--ro address-family  identityref
27          o--ro default-rib?    boolean {multiple-ribs}?
28          o--ro routes
29              |  o--ro route* []
30              |      o--ro route-preference?  route-preference
31              |      o--ro next-hop
32              |          |  +--ro (next-hop-options)
33              |          |      +--:(simple-next-hop)
34              |          |          |  +--ro outgoing-interface?  if:interface-ref
35              |          |          |  +--:(special-next-hop)
36              |          |          |  |  +--ro special-next-hop?  enumeration
37              |          |          |  +--:(next-hop-list)
38              |          |          |  +--ro next-hop-list
39              |          |          |  +--ro next-hop* []
40              |          |          |  +--ro outgoing-interface?  if:interface-
41              |          |          |
42              |          |          |
43              |          |          |
44              |          |          |
45              |          |          |
46              |          |          |
47  ref
48          |      +--ro source-protocol  identityref
49          |      +--ro active?          empty
50          |      +--ro last-updated?    yang:date-and-time
51  o---x active-route
52      +--ro output
53          o--ro route
54              o--ro next-hop
55                  |  +--ro (next-hop-options)
56                  |      +--:(simple-next-hop)
57                  |          |  +--ro outgoing-interface?  if:interface-ref
58                  |          |  +--:(special-next-hop)
59                  |          |  |  +--ro special-next-hop?  enumeration
60                  |          |  +--:(next-hop-list)
61                  |          |  +--ro next-hop-list
62                  |          |  +--ro next-hop* []
63                  |          |
64                  |          |
65                  |          |

```

```
1          |          +--ro outgoing-interface?  if:inter-
2  face-ref
3
4          +--ro source-protocol  identityref
5          +--ro active?          empty
6          +--ro last-updated?    yang:date-and-time
7
8
9
10
11
12
13
14
15
16
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21
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```

## 5.3.2 YANG module

In the following YANG module definitions, should any discrepancy between the text of the description for individual YANG nodes and the corresponding definition in 5.2 through 5.3 of this clause occur, the definitions and mappings in 5.3 shall take precedence.

An ASCII text version of the Ethernet YANG module can be found at the following URL:<sup>k</sup>  
<https://github.com/YangModels/yang/tree/master/standard/ieee/published/802.3>.

### 5.3.2.1 Ethernet interface module

```
module ieee802-ethernet-interface {  
  yang-version 1.1;  
  
  namespace  
    "urn:ieee:std:802.3:yang:ieee802-ethernet-interface";  
  
  prefix ieee802-eth-if;  
  
  revision 2019-06-21 {  
    description "Initial revision.";  
  }  
  
  import ietf-yang-types {  
    prefix yang;  
    reference "IETF RFC 6991";  
  }  
  
  import ietf-interfaces {  
    prefix if;  
    reference "IETF RFC 8343";  
  }  
  
  import iana-if-type {  
    prefix ianaift;  
    reference "http://www.iana.org/assignments/yang-parameters/  
      iana-if-type@2018-07-03.yang";  
  }  
  
  organization  
    "IEEE Std 802.3 Ethernet Working Group  
    Web URL: http://www.ieee802.org/3/";  
  
  contact  
    "Web URL: http://www.ieee802.org/3/";  
  
  description  
    "This module contains YANG definitions for configuring IEEE Std  
    802.3 Ethernet Interfaces.  
    In this YANG module, 'Ethernet interface' can be interpreted  
    as referring to 'IEEE Std 802.3 compliant Ethernet
```

<sup>k</sup>Copyright release for YANG modules: Users of this standard may freely reproduce the YANG module contained in this subclause so that it can be used for its intended purpose.

```
1     interfaces'.";
2
3     reference "IEEE Std 802.3-2018, unless dated explicitly";
4
5     typedef eth-if-speed-type {
6         type decimal64 {
7             fraction-digits 3;
8         }
9         units "Gb/s";
10        description
11            "Used to represent the configured, negotiated, or actual speed
12            of an Ethernet interface in Gigabits per second (Gb/s),
13            accurate to 3 decimal places (i.e., accurate to 1 Mb/s).";
14    }
15
16    typedef duplex-type {
17        type enumeration {
18            enum full {
19                description
20                    "Full duplex.";
21            }
22            enum half {
23                description
24                    "Half duplex.";
25            }
26            enum unknown {
27                description
28                    "Link is currently disconnected or initializing.";
29            }
30        }
31        default full;
32        description
33            "Used to represent the configured, negotiated, or actual
34            duplex mode of an Ethernet interface.";
35        reference "IEEE Std 802.3, 30.3.1.1.32, aDuplexStatus";
36    }
37
38    typedef pause-fc-direction-type {
39        type enumeration {
40            enum "disabled" {
41                description
42                    "Flow-control disabled in both ingress and egress
43                    directions, i.e., PAUSE frames are not transmitted and
44                    PAUSE frames received in the ingress direction are
45                    discarded without processing.";
46            }
47            enum "ingress-only" {
48                description
49                    "PAUSE frame based flow control is enabled in the ingress
50                    direction only, i.e., PAUSE frames may be transmitted to
51                    reduce the ingress traffic flow, but PAUSE frames received
52                    in the ingress direction are discarded without reducing
53                    the egress traffic rate.";
54            }
55        }
56    }
57
58    }
```

```
1      enum "egress-only" {
2          description
3              "PAUSE frame based flow control is enabled in the egress
4              direction only, i.e., PAUSE frames are not transmitted,
5              but PAUSE frames received in the ingress direction are
6              processed to reduce the egress traffic rate.";
7          }
8      }
9      enum "bi-directional" {
10         description
11             "PAUSE frame based flow control is enabled in both ingress
12             and egress directions, i.e., PAUSE frames may be
13             transmitted to reduce the ingress traffic flow, and
14             PAUSE frames received on ingress are processed to reduce
15             the egress traffic rate.";
16         }
17     }
18     enum "undefined" {
19         description
20             "Link is currently disconnected or initializing.";
21     }
22 }
23
24 description
25     "Used to represent the configured, negotiated, or actual
26     PAUSE frame-based flow control setting.";
27
28 reference
29     "IEEE Std 802.3.1, dot3PauseAdminMode and dot3PauseOperMode";
30
31 }
32
33
34 feature ethernet-pfc {
35     description
36         "This device supports Ethernet priority flow-control.";
37 }
38
39
40 feature ethernet-pause {
41     description
42         "This device supports Ethernet PAUSE.";
43 }
44
45
46 augment "/if:interfaces/if:interface" {
47     when "derived-from-or-self(if:type, 'ianaift:ethernetCsmacd')" {
48         description
49             "Applies to all P2P Ethernet interfaces.";
50     }
51 }
52
53 description
54     "Augment interface model with Ethernet interface
55     specific configuration nodes.";
56
57 container ethernet {
58     description
59         "Contains all Ethernet interface related configuration.";
60
61     container auto-negotiation {
62         presence
63             "The presence of this container indicates that
```

```
1         auto-negotiation is supported on this Ethernet
2         interface.";
3     description
4         "Contains auto-negotiation transmission parameters
5
6         This container contains a data node that allows the
7         advertised duplex value in the negotiation to be
8         restricted.
9
10        If not specified then the default behavior for the duplex
11        data node is to negotiate all available values for the
12        particular type of Ethernet PHY associated with the
13        interface.
14
15        If auto-negotiation is enabled, and PAUSE frame based flow
16        control has not been explicitly configured, then the
17        default PAUSE frame based flow control capabilities that
18        are negotiated allow for bi-directional or egress-only
19        PAUSE frame based flow control.
20
21        If auto-negotiation is enabled, and PAUSE frame based flow
22        control has been explicitly configured, then the
23        configuration settings restrict the values that may be
24        negotiated. However, it should be noted that the protocol
25        does not allow only egress PAUSE frame based flow control
26        to be negotiated without also allowing bi-directional
27        PAUSE frame based flow control.";
28     reference
29         "IEEE Std 802.3, Clause 28 and Annexes 28A-D";
30
31     leaf enable {
32         type boolean;
33         default true;
34
35         description
36             "Controls whether auto-negotiation is enabled or
37             disabled.
38             For interface types that support auto-negotiation then
39             it defaults to being enabled.
40
41             For interface types that do not support auto-negotiation,
42             the related configuration data is ignored.";
43     }
44     leaf negotiation-status {
45         when "../enable = 'true'";
46         type enumeration {
47             enum in-progress {
48                 description
49                     "The auto-negotiation protocol is running and
50                     negotiation is currently in-progress.";
51             }
52             enum complete {
53                 description
54                     "The auto-negotiation protocol has completed
```

```
1         successfully.";
2     }
3     enum failed {
4         description
5             "The auto-negotiation protocol has failed.";
6     }
7     enum unknown {
8         description
9             "The auto-negotiation status is not currently known,
10             this could be because it is still negotiating or the
11             protocol cannot run (e.g., if no medium is present).";
12     }
13     enum no-negotiation {
14         description
15             "No auto-negotiation is executed.
16             The auto-negotiation function is either not supported
17             on this interface or has not been enabled.";
18     }
19     }
20     config false;
21     description
22         "The status of the auto-negotiation protocol.";
23     reference
24         "IEEE 802.3, 30.6.1.1.4, aAutoNegAutoConfig";
25 }
26
27 }
28
29 leaf duplex {
30     type duplex-type;
31     description
32         "Operational duplex mode of the Ethernet interface.";
33     reference
34         "IEEE Std 802.3, 30.3.1.1.32 aDuplexStatus";
35 }
36
37 leaf speed {
38     type eth-if-speed-type;
39     units "Gb/s";
40     description
41         "Operational speed (data rate) of the Ethernet interface.
42         The default value is implementation-dependent.";
43 }
44
45 container flow-control {
46     description
47         "Holds the different types of Ethernet PAUSE frame based
48         flow control that can be enabled.";
49     container pause {
50         if-feature "ethernet-pause";
51         description
52             "IEEE Std 802.3 PAUSE frame based PAUSE frame based flow
53             control.";
54         reference
```



```
1         "IEEE Std 802.3, Annex 31B";
2     leaf direction {
3         type pause-fc-direction-type;
4         description
5             "Indicates which direction PAUSE frame based flow
6             control is enabled in, or whether it is disabled.
7             The default flow-control settings are vendor specific.
8             If auto-negotiation is enabled, then PAUSE based
9             flow-control is negotiated by default.
10            The default value is implementation-dependent.";
11     }
12
13     container statistics {
14         config false;
15         description
16             "Contains the number of PAUSE frames received or
17             transmitted.";
18         leaf in-frames-pause {
19             type yang:counter64;
20             units frames;
21             description
22                 "A count of PAUSE MAC Control frames transmitted on
23                 this Ethernet interface.
24
25                 Discontinuities in the values of counters in
26                 this container can occur at re-initialization of the
27                 management system, and at other times as indicated
28                 by the value of the 'discontinuity-time' leaf
29                 defined in the ietf-interfaces YANG module
30                 (IETF RFC 8343).";
31             reference
32                 "IEEE Std 802.3, 30.3.4.3 aPAUSEMACCtrlFramesReceived";
33         }
34         leaf out-frames-pause {
35             type yang:counter64;
36             units frames;
37             description
38                 "A count of PAUSE MAC Control frames transmitted on
39                 this Ethernet interface.
40
41                 Discontinuities in the values of counters in
42                 this container can occur at re-initialization of the
43                 management system, and at other times as indicated
44                 by the value of the 'discontinuity-time' leaf
45                 defined in the ietf-interfaces YANG module
46                 (IETF RFC 8343).";
47             reference
48                 "IEEE Std 802.3, 30.3.4.2
49                 aPAUSEMACCtrlFramesTransmitted";
50         }
51     }
52 }
53
54 container pfc {
55
```

```
1         if-feature "ethernet-pfc";
2     description
3         "IEEE Std 802.3 Priority-based flow control.";
4     reference
5         "IEEE Std 802.3, Annex 31D";
6
7
8     leaf enable {
9         type boolean;
10
11         description
12             "True indicates that IEEE Std 802.3 priority-based
13              flow control is enabled, false indicates that
14              IEEE Std 802.3 priority-based flow control is disabled.
15              For interfaces that have auto-negotiation,
16              the priority-based flow control is enabled by default.";
17     }
18
19
20
21     container statistics {
22         config false;
23         description
24             "This container collects all statistics for
25              Ethernet interfaces.";
26
27
28         leaf in-frames-pfc {
29             type yang:counter64;
30             units frames;
31             description
32                 "A count of PFC MAC Control frames received on this
33                  Ethernet interface.
34
35                  Discontinuities in the values of counters in
36                  this container can occur at re-initialization of the
37                  management system, and at other times as indicated
38                  by the value of the 'discontinuity-time' leaf
39                  defined in the ietf-interfaces YANG module
40                  (IETF RFC 8343).";
41             reference
42                 "IEEE Std 802.3.1, dot3HCInPFCFrames";
43         }
44
45         leaf out-frames-pfc {
46             type yang:counter64;
47             units frames;
48             description
49                 "A count of PFC MAC Control frames transmitted on
50                  this interface.
51
52                  Discontinuities in the values of counters in
53                  this container can occur at re-initialization of the
54                  management system, and at other times as indicated
55                  by the value of the 'discontinuity-time' leaf
56                  defined in the ietf-interfaces YANG module
57                  (IETF RFC 8343).";
58             reference
```

```
1         "IEEE Std 802.3.1, dot3HCInPFCFrames";
2     }
3 }
4 }
5 }
6
7 leaf force-flow-control {
8     type boolean;
9     default false;
10    description
11        "Explicitly forces the local PAUSE frame based flow control
12         settings regardless of what has been negotiated.
13
14         Since the auto-negotiation of flow-control settings
15         does not allow all sane combinations to be negotiated
16         (e.g., consider a device that is only capable of sending
17         PAUSE frames connected to a peer device that is only
18         capable of receiving and acting on PAUSE frames) and
19         failing to agree on the flow-control settings does not
20         cause the auto-negotiation to fail completely, then it is
21         sometimes useful to be able to explicitly enable
22         particular PAUSE frame based flow control settings on
23         the local device regardless of what is being advertised
24         or negotiated.";
25    reference
26        "IEEE Std 802.3, Table 28B-3";
27 }
28 }
29
30 leaf max-frame-length {
31     type uint16;
32     units octets;
33     config false;
34     description
35        "This indicates the MAC frame length (including FCS bytes)
36         at which frames are dropped for being too long.";
37    reference
38        "IEEE Std 802.3, 30.3.1.1.37 aMaxFrameLength";
39 }
40
41 leaf mac-control-extension-control {
42     type boolean;
43     config false;
44     description
45        "A value that identifies the current EXTENSION MAC Control
46         function, as specified in IEEE Std 802.3, Annex 31C.";
47    reference
48        "IEEE Std 802.3, 30.3.8.3 aEXTENSIONMACCtrlStatus
49         IEEE Std 802.3.1, dot3ExtensionMacCtrlStatus ";
50 }
51
52 leaf frame-limit-slow-protocol {
53     type uint64;
54     units f/s;
55     default 10;
```

```
1      config false;
2      description
3          "The maximum number of Slow Protocol frames of a given
4          subtype that can be transmitted in a one second interval.
5          The default value is 10.";
6      reference
7          "IEEE Std 802.3, 30.3.1.1.38 aSlowProtocolFrameLimit";
8  }
9
10
11  container capabilities {
12      config false;
13      description
14          "Container all Ethernet interface specific capabilities.";
15
16      leaf auto-negotiation {
17          type boolean;
18          description
19              "Indicates whether auto-negotiation may be configured on
20              this interface.";
21      }
22  }
23
24  container statistics {
25      config false;
26      description
27          "Contains statistics specific to Ethernet interfaces.
28
29          Discontinuities in the values of counters in the
30          container can occur at re-initialization of the management
31          system, and at other times as indicated by the value of
32          the 'discontinuity-time' leaf defined in the
33          ietf-interfaces YANG module (IETF RFC 8343).";
34  }
35
36  container frame {
37      description
38          "Contains frame statistics specific to Ethernet
39          interfaces.
40
41          All octet frame lengths include the 4 byte FCS.
42
43          Error counters are only reported once ... The count
44          represented by an instance of this object is incremented
45          when the frameCheckError status is returned by the MAC
46          service to the LLC (or other MAC user). Received frames
47          for which multiple error conditions pertain are,
48          according to the conventions of IEEE Std 802.3 Layer
49          Management, counted exclusively according to the error
50          status presented to the LLC.
51
52          A frame that is counted by an instance of this object is
53          also counted by the corresponding instance of 'in-errors'
54          leaf defined in the ietf-interfaces YANG module
55          (IETF RFC 8343).
56  }
```

```
1
2      Discontinuities in the values of counters in the
3      container can occur at re-initialization of the
4      management system, and at other times as indicated by
5      the value of the 'discontinuity-time' leaf defined in
6      the ietf-interfaces YANG module (IETF RFC 8343).";
7
8
9
10     leaf in-total-frames {
11         type yang:counter64;
12         units frames;
13         description
14             "The total number of frames (including bad frames)
15              received on the Ethernet interface.
16
17              This counter is calculated by summing the following
18              IEEE Std 802.3, Clause 30 counters:
19              aFramesReceivedOK +
20              aFrameCheckSequenceErrors +
21              aAlignmentErrors +
22              aFrameTooLongErrors +
23              aFramesLostDueToIntMACRcvError
24
25              Also see the 'description' statement associated with
26              the parent 'statistics' container for additional
27              common semantics related to this counter.";
28
29         reference
30             "IEEE Std 802.3, Clause 30 counters, as specified
31              in the description above.";
32     }
33
34     leaf in-total-octets {
35         type yang:counter64;
36         units octets;
37         description
38             "The total number of octets of data (including those in
39              bad frames) received on the Ethernet interface.
40
41              Includes the 4-octet FCS.
42
43              Also see the 'description' statement associated with
44              the parent 'statistics' container for additional
45              common semantics related to this counter.";
46
47         reference
48             "IETF RFC 2819, etherStatsOctets";
49     }
50
51     leaf in-frames {
52         type yang:counter64;
53         units frames;
54         description
55             "A count of frames (including unicast, multicast and
56              broadcast) that have been successfully received on the
57
58
59
60
61
62
63
64
65
```

Ethernet interface.

This count does not include frames received with frame-too-long, FCS, length or alignment errors, or frames lost due to internal MAC sublayer error.

Also see the 'description' statement associated with the parent 'statistics' container for additional common semantics related to this counter.";

reference

"IEEE Std 802.3, 30.3.1.1.5 aFramesReceivedOK";

}

leaf in-multicast-frames {

type yang:counter64;

units frames;

description

"A count of multicast frames that have been successfully received on the Ethernet interface.

This counter represents a subset of the frames counted by in-frames.

This count does not include frames received with frame-too-long, FCS, length or alignment errors, or frames lost due to internal MAC sublayer error.

Also see the 'description' statement associated with the parent 'statistics' container for additional common semantics related to this counter.";

reference

"IEEE Std 802.3, 30.3.1.1.21 aMulticastFramesReceivedOK";

}

leaf in-broadcast-frames {

type yang:counter64;

units frames;

description

"A count of broadcast frames that have been successfully received on the Ethernet interface.

This counter represents a subset of the frames counted by in-frames.

This count does not include frames received with frame-too-long, FCS, length or alignment errors, or frames lost due to internal MAC sublayer error.

Also see the 'description' statement associated with the parent 'statistics' container for additional common semantics related to this counter.";

```
1         reference
2         "IEEE Std 802.3, 30.3.1.1.22 aBroadcastFramesReceivedOK";
3     }
4
5     leaf in-error-fcs-frames {
6         type yang:counter64;
7         units frames;
8         description
9             "A count of receive frames that are of valid length,
10             but do not pass the FCS check, regardless of whether
11             or not the frames are an integral number of octets in
12             length.
13
14             This count effectively comprises
15             aFrameCheckSequenceErrors and aAlignmentErrors added
16             together.
17
18             Also see the 'description' statement associated with
19             the parent 'statistics' container for additional
20             common semantics related to this counter.";
21
22         reference
23         "IEEE Std 802.3, 30.3.1.1.6 aFrameCheckSequenceErrors;
24         IEEE Std 802.3, 30.3.1.1.7 aAlignmentErrors";
25     }
26
27     leaf in-error-undersize-frames {
28         type yang:counter64;
29         units frames;
30         description
31             "A count of frames received on a particular Ethernet
32             interface that are less than 64 bytes in length, and
33             are discarded.
34
35             This counter is incremented regardless of whether the
36             frame passes the FCS check.
37
38             Also see the 'description' statement associated with
39             the parent 'statistics' container for additional
40             common semantics related to this counter.";
41
42         reference
43         "IETF RFC 2819, etherStatsUndersizePkts and
44         etherStatsFragments";
45     }
46
47     leaf in-error-oversize-frames {
48         type yang:counter64;
49         units frames;
50         description
51             "A count of frames received on a particular Ethernet
52             interface that exceed the maximum permitted frame
53             size, that is specified in max-frame-length, and are
54             discarded.
```

```
1
2         This counter is incremented regardless of whether the
3         frame passes the FCS check.
4
5         Also see the 'description' statement associated with
6         the parent 'statistics' container for additional
7         common semantics related to this counter.";
8
9
10        reference "IEEE Std 802.3, 30.3.1.1.25 aFrameTooLongErrors";
11    }
12
13
14    leaf in-error-mac-internal-frames {
15        type yang:counter64;
16        units frames;
17        description
18            "A count of frames for which reception on a particular
19            Ethernet interface fails due to an internal MAC
20            sublayer receive error.
21
22            A frame is only counted by an instance of this object
23            if it is not counted by the corresponding instance of
24            either the in-error-fcs-frames, in-error-undersize-frames,
25            or in-error-oversize-frames. The precise meaning of the
26            count represented by an instance of this object is
27            implementation-specific.
28
29            In particular, an instance of this object may
30            represent a count of receive errors on a particular
31            Ethernet interface that are not otherwise counted.
32
33            Also see the 'description' statement associated with
34            the parent 'statistics' container for additional
35            common semantics related to this counter.";
36
37        reference
38            "IEEE Std 802.3, 30.3.1.1.15
39            aFramesLostDueToIntMACRcvError";
40    }
41
42
43    leaf out-frames {
44        type yang:counter64;
45        units frames;
46        description
47            "A count of frames (including unicast, multicast and
48            broadcast) that have been successfully transmitted on
49            the Ethernet interface.
50
51            Also see the 'description' statement associated with
52            the parent 'statistics' container for additional
53            common semantics related to this counter.";
54
55        reference
56            "IEEE Std 802.3, 30.3.1.1.2 aFramesTransmittedOK";
57    }
58
59
60
61
62
63
64
65
```



```
1
2     leaf out-multicast-frames {
3         type yang:counter64;
4         units frames;
5         description
6             "A count of multicast frames that have been
7             successfully transmitted on the Ethernet interface.
8
9             This counter represents a subset of the frames counted
10            by out-frames.
11
12            Also see the 'description' statement associated with
13            the parent 'statistics' container for additional
14            common semantics related to this counter.";
15
16            reference
17                "IEEE Std 802.3, 30.3.1.1.18 aMulticastFramesXmittedOK";
18        }
19
20     leaf out-broadcast-frames {
21         type yang:counter64;
22         units frames;
23         description
24             "A count of broadcast frames that have been
25             successfully transmitted on the Ethernet interface.
26
27            This counter represents a subset of the frames counted
28            by out-frames.
29
30            Also see the 'description' statement associated with
31            the parent 'statistics' container for additional
32            common semantics related to this counter.";
33
34            reference
35                "IEEE Std 802.3, 30.3.1.1.19 aBroadcastFramesXmittedOK";
36        }
37
38     leaf out-error-mac-internal-frames {
39         type yang:counter64;
40         units frames;
41         description
42             "A count of frames for which transmission on a
43             particular Ethernet interface fails due to an internal
44             MAC sublayer transmit error.
45
46            The precise meaning of the count represented by an
47            instance of this object is implementation-specific. In
48            particular, an instance of this object may represent a
49            count of transmission errors on a particular Ethernet
50            interface that are not otherwise counted.
51
52            Also see the 'description' statement associated with
53            the parent 'statistics' container for additional
54            common semantics related to this counter.";
```

```
1
2         reference
3         "IEEE Std 802.3, 30.3.1.1.12
4         aFramesLostDueToIntMACXmitError";
5     }
6 }
7
8
9
10 container phy {
11     description
12         "Ethernet statistics related to the PHY layer.
13
14         Discontinuities in the values of counters in the
15         container can occur at re-initialization of the
16         management system, and at other times as indicated by
17         the value of the 'discontinuity-time' leaf defined in
18         the ietf-interfaces YANG module (IETF RFC 8343).";
19
20     leaf in-error-symbol {
21         type yang:counter64;
22         units errors;
23         description
24             "A count of the number of symbol errors that have
25             occurred.
26
27             For the precise definition of when the symbol error
28             counter is incremented, please see the 'description'
29             text associated with aSymbolErrorDuringCarrier,
30             specified in IEEE Std 802.3, 30.3.2.1.5.
31
32             Also see the 'description' statement associated with
33             the parent 'phy-statistics' container for additional
34             common semantics related to this counter.";
35         reference
36             "IEEE Std 802.3, 30.3.2.1.5 aSymbolErrorDuringCarrier";
37     }
38
39     container lpi {
40         description
41             "Physical Ethernet statistics for the energy efficiency
42             related low power idle indications.";
43
44         leaf in-lpi-transitions {
45             type yang:counter64;
46             units transitions;
47             description
48                 "A count of occurrences of the transition from
49                 DEASSERT to ASSERT of the LPI_INDICATE
50                 parameter. The indication reflects the state of the
51                 PHY according to the requirements of the RS (see
52                 IEEE Std 802.3, 22.7, 35.4, and 46.4).
53
54                 Also see the 'description' statement associated with
55                 the parent 'phy-statistics' container for additional
56                 common semantics related to this counter.";
```

```
1
2         reference
3         "IEEE Std 802.3, 30.3.2.1.11 aReceiveLPITransitions";
4     }
5
6
7     leaf in-lpi-time {
8         type decimal64 {
9             fraction-digits 6;
10        }
11        units seconds;
12        description
13            "A count reflecting the total amount of time (in
14             seconds) that the LPI_REQUEST parameter has the
15             value ASSERT. The request is indicated to the PHY
16             according to the requirements of the RS (see IEEE Std
17             802.3, 22.7, 35.4, and 46.4).
18
19             Also see the 'description' statement associated with
20             the parent 'phy-statistics' container for additional
21             common semantics related to this counter.";
22
23        reference
24        "IEEE Std 802.3, 30.3.2.1.9 aReceiveLPIMicroseconds";
25    }
26
27    leaf out-lpi-transitions {
28        type yang:counter64;
29        units transitions;
30        description
31            "A count of occurrences of the transition from state
32             LPI_DEASSERTED to state LPI_ASSERTED in the LPI
33             transmit state diagram of the RS. The state
34             transition corresponds to the assertion of the
35             LPI_REQUEST parameter. The request is indicated to
36             the PHY according to the requirements of the RS (see
37             IEEE Std 802.3, 22.7, 35.4, 46.4.)
38
39             Also see the 'description' statement associated with
40             the parent 'phy-statistics' container for additional
41             common semantics related to this counter.";
42
43        reference
44        "IEEE Std 802.3, 30.3.2.1.10 aTransmitLPITransitions";
45    }
46
47    leaf out-lpi-time {
48        type decimal64 {
49            fraction-digits 6;
50        }
51        units seconds;
52        description
53            "A count reflecting the total amount of time (in
54             seconds) that the LPI_INDICATION parameter has the
55             value ASSERT. The request is indicated to the PHY
```

```
1         according to the requirements of the RS (see IEEE
2         802.3, 22.7, 35.4, and 46.4).
3
4         Also see the 'description' statement associated with
5         the parent 'phy-statistics' container for additional
6         common semantics related to this counter.";
7
8
9         reference
10        "IEEE Std 802.3, 30.3.2.1.8 aTransmitLPIMicroseconds";
11    }
12  }
13  }
14  }
15
16  container mac-control {
17    description
18      "A group of statistics specific to MAC Control operation
19      of selected Ethernet interfaces.
20
21      Discontinuities in the values of counters in the
22      container can occur at re-initialization of the
23      management system, and at other times as indicated by
24      the value of the 'discontinuity-time' leaf defined in
25      the ietf-interfaces YANG module (IETF RFC 8343).";
26
27    reference
28      "IEEE Std 802.3.1, dot3ExtensionTable";
29
30    leaf in-frames-mac-control-unknown {
31      type yang:counter64;
32      units frames;
33      description
34        "A count of MAC Control frames with an unsupported
35        opcode received on this Ethernet interface.
36
37        Frames counted against this counter are also counted
38        against in-discards defined in the ietf-interfaces
39        YANG module (IETF RFC 8343).
40
41        Also see the 'description' statement associated with
42        the parent 'mac-control-statistics' container for
43        additional semantics.";
44      reference
45        "IEEE Std 802.3, 30.3.3.5 aUnsupportedOpcodesReceived";
46    }
47
48    leaf in-frames-mac-control-extension {
49      type yang:counter64;
50      units frames;
51      description
52        "The count of Extension MAC Control frames received on
53        this Ethernet interface.
54
55        Also see the 'description' statement associated with
56        the parent 'mac-control-statistics' container for
```

```
1         additional semantics.";
2     reference
3         "IEEE Std 802.3, 30.3.8.2
4         aEXTENSIONMACCtrlFramesReceived";
5     }
6
7
8     leaf out-frames-mac-control-extension {
9         type yang:counter64;
10        units frames;
11        description
12            "The count of Extension MAC Control frames transmitted
13            on this Ethernet interface.
14
15            Also see the 'description' statement associated with
16            the parent 'mac-control-statistics' container for
17            additional semantics.";
18        reference
19            "IEEE Std 802.3, 30.3.8.1
20            aEXTENSIONMACCtrlFramesTransmitted";
21    }
22
23    }
24
25    }
26
27    }
28
29    }
30 }
```

### 5.3.2.2 Ethernet interface module (half-duplex)

```
32
33
34 module ieee802-ethernet-interface-half-duplex {
35
36     yang-version 1.1;
37
38     namespace
39         "urn:ieee:std:802.3:yang:ieee802-ethernet-interface-half-duplex";
40
41     prefix ieee802-eth-half-duplex;
42
43     revision 2019-06-21 {
44         description "Initial revision.";
45     }
46
47     import ietf-yang-types {
48         prefix yang;
49         reference "IETF RFC 6991";
50     }
51
52     import ietf-interfaces {
53         prefix if;
54         reference "IETF RFC 8343";
55     }
56
57     import iana-if-type {
58         prefix ianaift;
59         reference "http://www.iana.org/assignments/yang-parameters/";
60     }
61
62     import iana-if-type {
63         prefix ianaift;
64         reference "http://www.iana.org/assignments/yang-parameters/";
65     }
```

```
1      iana-if-type@2018-07-03.yang";
2  }
3
4  import ieee802-ethernet-interface {
5      prefix ieee802-eth-if;
6  }
7
8
9  organization
10     "IEEE Std 802.3 Ethernet Working Group
11     Web URL: http://www.ieee802.org/3/";
12
13
14  contact
15     "Web URL: http://www.ieee802.org/3/";
16
17
18  description
19     "This module contains YANG definitions for configuring Ethernet
20     interfaces that are deprecated, and are no longer
21     widely used in the industry. The definitions are maintained for
22     backwards compatibility purposes, but the general expectation is
23     that this module is not anticipated to be widely implemented.";
24  reference
25     "IEEE Std 802.3-2018, unless dated explicitly";
26
27
28  feature dynamic-rate-control {
29      description
30         "This feature indicates that the device supports Ethernet
31         interfaces lowering the average data rate of the MAC sublayer,
32         with frame granularity, by using Rate Control to dynamically
33         increase the inter-packet gap for some types of Ethernet
34         interface.
35         Only valid for Ethernet interfaces operating at speeds (data
36         rates)
37         above 1000 Mb/s.";
38         reference "IEEE Std 802.3, 30.3.1.1.33 aRateControlAbility";
39     }
40
41  feature csma-cd {
42      description
43         "This feature indicates that the device supports Ethernet
44         interfaces running at half-duplex using CSMA/CD.";
45  }
46
47  typedef dynamic-rate-control-type {
48      type enumeration {
49          enum disabled {
50              description
51                 "Dynamic rate control is disabled";
52          }
53
54          enum "sonet-oc192" {
55              value 2;
56              description
57                 "Dynamic rate control is enabled for a 10 Gb/s Ethernet
58                 interface to SONET/SDH OC192/STM64.";
59          }
60      }
61  }
```

```
1      }
2    }
3    default disabled;
4    description
5      "Allowed values for dynamic-rate-control.";
6    reference
7      "IEEE Std 802.3, 4.4.2 ipgStretchRatio and 30.3.1.1.34
8      aRateControlStatus";
9  }
10
11  augment "/if:interfaces/if:interface/ieee802-eth-if:ethernet" {
12    when "derived-from-or-self(..if:type, 'ianaift:ethernetCsmacd')
13    and ieee802-eth-if:duplex = 'half'" {
14      description
15        "Applies to half-duplex Ethernet interfaces.";
16    }
17
18    description
19      "Augment with Ethernet interface configuration parameters
20      for half-duplex operation.";
21
22    leaf dynamic-rate-control {
23      if-feature "dynamic-rate-control";
24      type dynamic-rate-control-type;
25      description
26        "Enables dynamic rate control and specifies what speed (data
27        rate)
28        the dynamic rate control is operating at. The value of this
29        attribute
30        is constrained by the MAC data rate and hardware support.
31        The default value is implementation-dependent.";
32      reference
33        "IEEE Std 802.3, 30.3.1.1.34 aRateControlStatus";
34    }
35  }
36
37  augment "/if:interfaces/if:interface/ieee802-eth-if:ethernet/" +
38    "ieee802-eth-if:capabilities"{
39    when "derived-from-or-self(..if:type,
40      'ianaift:ethernetCsmacd') and ../ieee802-eth-if:duplex = 'half'" {
41      description "Applies to half-duplex Ethernet interfaces";
42    }
43
44    description
45      "Augment with configuration capabilities for half-duplex
46      Ethernet interface.";
47
48    leaf dynamic-rate-control-supported {
49      if-feature "dynamic-rate-control";
50      type boolean;
51      default false;
52      description
53        "Indicates whether the Ethernet interface supports lowering
54        the average data rate of the MAC sublayer, with frame
```

```

1      granularity, by using Rate Control to dynamically increase
2      the inter-packet gap.
3      Only valid for Ethernet interfaces operating at speeds (data
4      rates)
5      above 1000 Mb/s.";
6      reference
7      "IEEE Std 802.3, 30.3.1.1.33 aRateControlAbility";
8  }
9  }
10
11  augment "/if:interfaces/if:interface/ieee802-eth-if:ethernet/" +
12  "ieee802-eth-if:statistics/ieee802-eth-if:frame" {
13    when "derived-from-or-self(..../if:type,
14          'ianaift:ethernetCsmacd') and ..../ieee802-eth-if:duplex = 'half'"
15  {
16    description
17      "Applies to half-duplex Ethernet interfaces.";
18  }
19  description
20    "Augment with statistics for half-duplex Ethernet interface.";
21
22  container "csma-cd" {
23    if-feature "csma-cd";
24    description
25      "Holds counters that are specific to CDMA/CD half-duplex
26      operation of Ethernet interfaces.
27      Discontinuities in the values of the counters in this
28      container can occur at re-initialization of the management
29      system, and at other times as indicated by the value of the
30      'discontinuity-time' leaf defined in the ietf-interfaces
31      YANG module (IETF RFC 8343).";
32
33    leaf in-errors-sqe-test {
34      type yang:counter64;
35      units errors;
36      description
37        "A count of times that the SQE TEST ERROR is received on a
38        particular interface. The SQE TEST ERROR is set in
39        accordance with the rules for verification of the SQE
40        detection mechanism in the PLS Carrier Sense Function as
41        described in IEEE Std 802.3, 7.2.4.6.
42        This counter does not increment on Ethernet interfaces
43        operating at speeds (data rates) greater than 10 Mb/s, or on
44        Ethernet interfaces operating in full-duplex mode.
45        Discontinuities in the value of this counter can occur at
46        re-initialization of the management system, and at other
47        times as indicated by the value of the
48        'discontinuity-time' leaf defined in the ietf-interfaces
49        YANG module (IETF RFC 8343).";
50      reference
51        "IEEE Std 802.3, 7.2.4.6, and 30.3.2.1.4 aSQETestErrors";
52    }
53
54    leaf out-frames-collision-single {

```



```
1      type yang:counter64;
2      units frames;
3      description
4          "A count of frames that are involved in a single collision,
5           and are subsequently transmitted successfully. A frame
6           that is counted by an instance of this object is also
7           counted by the corresponding instance of either
8           'out-unicast-frames', 'out-broadcast-frames', or
9           'out-multicast-frames', and is not counted by the
10          corresponding instance of the
11          'out-frames-collision-multiple'."
12
13          This counter does not increment when the Ethernet
14          interface is operating in full-duplex mode.
15          Discontinuities in the value of this counter can occur at
16          re-initialization of the management system, and at other
17          times as indicated by the value of the
18          'discontinuity-time' leaf defined in the ietf-interfaces
19          YANG module (IETF RFC 8343).";
20      reference
21          "IEEE Std 802.3, 30.3.1.1.3 aSingleCollisionFrames";
22  }
23
24  leaf out-frames-collision-multiple {
25      type yang:counter64;
26      units frames;
27      description
28          "A count of frames that are involved in multiple
29           collisions, and are subsequently transmitted
30           successfully. A frame that is counted by an instance of
31           this object is also counted by the corresponding instance
32           of either 'out-unicast-frames', 'out-broadcast-frames', or
33           'out-multicast-frames', and is not counted by the
34           corresponding instance of the 'out-frames-collision-single'.
35           This counter does not increment when the Ethernet
36           interface is operating in full-duplex mode.
37           Discontinuities in the value of this counter can occur at
38           re-initialization of the management system, and at other
39           times as indicated by the value of the
40           'discontinuity-time' leaf defined in the ietf-interfaces
41           YANG module (IETF RFC 8343).";
42      reference
43          "IEEE Std 802.3, 30.3.1.1.4 aMultipleCollisionFrames";
44  }
45
46  leaf out-frames-deferred {
47      type yang:counter64;
48      units frames;
49      description
50          "A count of frames for which the first transmission attempt
51           on a particular Ethernet interface is delayed because the
52           medium is busy.
53           A deferred frame that is not subject to any number of
54           collisions is not counted by an instance of
```

```
1         'out-frames-collision-single' or
2         'out-frames-collision-multiple' objects.
3         This counter does not increment when the Ethernet
4         interface is operating in full-duplex mode.
5         Discontinuities in the value of this counter can occur at
6         re-initialization of the management system, and at other
7         times as indicated by the value of the
8         'discontinuity-time' leaf defined in the ietf-interfaces
9         YANG module (IETF RFC 8343).";
10        reference
11        "IEEE Std 802.3, 30.3.1.1.9 aFramesWithDeferredXmissions";
12    }
13
14    leaf out-frames-collisions-excessive {
15        type yang:counter64;
16        units frames;
17        description
18            "A count of frames for which transmission on a particular
19            Ethernet interface fails due to excessive collisions.
20
21            This counter does not increment when the Ethernet
22            interface is operating in full-duplex mode.
23            Discontinuities in the value of this counter can occur at
24            re-initialization of the management system, and at other
25            times as indicated by the value of the
26            'discontinuity-time' leaf defined in the ietf-interfaces
27            YANG module (IETF RFC 8343).";
28        reference
29        "IEEE Std 802.3, 30.3.1.1.11 aFramesAbortedDueToXSColls";
30    }
31
32    leaf out-collisions-late {
33        type yang:counter64;
34        units collisions;
35        description
36            "The number of times that a collision is detected on a
37            particular Ethernet interface later than one slotTime into
38            the transmission of a packet.
39            A (late) collision included in a count represented by an
40            instance of this object is also considered as a (generic)
41            collision for purposes of other collision-related
42            statistics.
43            This counter does not increment when the Ethernet
44            interface is operating in full-duplex mode.
45            Discontinuities in the value of this counter can occur at
46            re-initialization of the management system, and at other
47            times as indicated by the value of the
48            'discontinuity-time' leaf defined in the ietf-interfaces
49            YANG module (IETF RFC 8343).";
50        reference
51        "IEEE Std 802.3, 30.3.1.1.10 aLateCollisions";
52    }
53
54    leaf out-errors-carrier-sense {
```

```
1      type yang:counter64;
2      units errors;
3      description
4          "The number of times that the carrier sense condition was
5           lost or never asserted when attempting to transmit a frame
6           on a particular Ethernet interface.
7           The count represented by an instance of this object is
8           incremented at most once per transmission attempt, even if
9           the carrier sense condition fluctuates during a
10          transmission attempt.
11          This counter does not increment when the Ethernet
12          interface is operating in full-duplex mode.
13          Discontinuities in the value of this counter can occur at
14          re-initialization of the management system, and at other
15          times as indicated by the value of the
16          'discontinuity-time' leaf defined in the ietf-interfaces
17          YANG module (IETF RFC 8343).";
18      reference
19          "IEEE Std 802.3, 30.3.1.1.13 aCarrierSenseErrors";
20  }
21
22  list collision-histogram {
23      key collision-count;
24      description
25          "A collection of collision histograms for a particular
26           interface.";
27      reference
28          "IEEE Std 802.3, 30.3.1.1.30 aCollisionFrames";
29      leaf collision-count {
30          type yang:counter64;
31          units collisions;
32          description
33              "The number of per-frame media collisions for which a
34               particular collision histogram cell represents the
35               frequency on a particular interface.";
36      }
37      leaf collision-count-frames {
38          type yang:counter64;
39          units frames;
40          description
41              "A count of individual MAC frames for which the
42               transmission (successful or otherwise) on a particular
43               interface occurs after the frame has experienced exactly
44               the number of collisions in the associated dot3CollCount
45               object.
46               For example, a frame which is transmitted on an
47               interface after experiencing exactly 4 collisions would
48               be indicated by incrementing only collision-count-frames
49               object associated with the collision-count value of
50               4. No other instance of collision-count-frames would be
51               incremented in this example.
52               This counter does not increment when the interface is
53               operating in full-duplex mode.
54               Discontinuities in the value of this counter can occur
```

```
1         at re-initialization of the management system, and at
2         other times as indicated by the value of the
3         'discontinuity-time' leaf defined in the ietf-interfaces
4         YANG module (IETF RFC 8343).";
5     }
6 }
7 }
8 }
9 }
10 }
11 }
```

### 5.3.2.3 Ethernet MAC merge module

```
16 module ieee802-ethernet-mac-merge {
17     yang-version "1.1";
18     namespace "urn:ieee:std:802.3:yang:ieee802-ethernet-mac-merge";
19     prefix "mac-merge";
20
21     import ietf-yang-types {
22         prefix yang;
23         reference "IETF RFC 6991";
24     }
25
26     import ietf-interfaces {
27         prefix if;
28         reference "IETF RFC 8343";
29     }
30
31     import ieee802-ethernet-interface {
32         prefix ieee802-eth-if;
33         reference "IEEE Std 802.3.2-2019";
34     }
35
36     organization
37         "IEEE Std 802.3 Ethernet Working Group
38         Web URL: http://www.ieee802.org/3/";
39
40     contact
41         "Web URL: http://www.ieee802.org/3/";
42
43     description
44         "The Yang model for managing devices that support the MAC merge sub-
45         layer as defined in Clause 99.
46         Unless otherwise indicated, the references in this model module are
47         to IEEE Std 802.3-2018.";
48
49     revision 2023-04-29 {
50         description
51             "Initial version.";
52         reference
53             "IEEE Std 802.3-2018";
54     }
55
56     feature mac-merge {
```

```

1      description
2      "Each Port supports the MAC merge sublayer.";
3      reference
4      "IEEE Std 802.3-2018";
5  }
6
7
8  augment "/if:interfaces/if:interface/ieee802-eth-if:ethernet" {
9      if-feature mac-merge;
10     container mac-merge {
11         container admin-control {
12             leaf merge-enable-tx {
13                 type enumeration {
14                     enum "Disabled" {
15                         description
16                             "Transmit preemption is disabled";
17                     }
18                     enum "Enabled" {
19                         description
20                             "Transmit preemption is enabled";
21                     }
22                 }
23             default "Disabled";
24             description
25                 "This attribute indicates (when accessed via a GET
26 operation) the status of the MAC
27 Merge sublayer on the given device in the transmit direction. The status
28 of the
29 MAC Merge sublayer may be modified to the indicated value via a SET
30 operation.
31 This attribute maps to the variable pEnable (see 99.4.7.3).";
32             reference
33                 "30.14.1.3";
34         }
35         leaf verify-disable-tx {
36             type enumeration {
37                 enum "Disabled" {
38                     description
39                         "Verify is disabled";
40                 }
41                 enum "Enabled" {
42                     description
43                         "Verify is enabled";
44                 }
45             }
46             default "Disabled";
47             description
48                 "This attribute indicates (when accessed via a
49 GET operation) the status of the
50 Verify function of MAC Merge sublayer on the given device in the trans-
51 mit direction. The status of the Verify function may be modified to the
52 indicated value via a SET operation. This attribute maps to the variable
53 disableVerify (see 99.4.7.3).";
54             reference
55                 "30.14.1.4";
56         }
57     }
58 }

```

```

1  --- "30.14.1.4";
2  ---
3  }
4  +leaf verify-time {
5  leaf verify-time type uint16 {
6  type uint16 { range "1..128";
7  range "1..128";
8  +units "milliseconds";
9  default "10";
10 description
11     "The value of this attribute defines the nominal
12 wait time between verification
13 attempts in milliseconds. Valid range is 1 to 128 inclusive. The default
14 value is 10. This attribute maps to the variable verifyTime (see
15 99.4.7.3).";
16
17     reference
18         "30.14.1.6";
19
20 }
21 leaf frag-size {
22     type uint16 uint8 {
23         range "0..3";
24     }
25     default "0";
26     description
27         "A 2-bit integer value used to indicate the value
28 of addFragSize variable used by
29 the Transmit Processing State Diagram (see Figure 99?).";
30
31     reference
32         "30.14.1.7";
33
34 }
35
36 }
37 container admin-status {
38     config false;
39     leaf merge-support {
40         type enumeration {
41             enum "Supported" {
42                 description
43                     "MAC Merge sublayer is supported on
44 the device";
45
46             }
47             enum "Not Supported" {
48                 description
49                     "MAC Merge sublayer is not supported
50 on the device";
51
52             }
53         }
54     }
55     description
56         "This attribute indicates (when accessed via a
57 GET operation) whether the given
58 device supports a MAC Merge sublayer. The SET operation shall have no
59 effect on a
60 device.";
61
62     reference
63         "30.14.1.1";
64
65

```

```

1          }
2      leaf verify-status {
3          type enumeration {
4              enum "unknown" {
5                  description
6                      "Verification status is unknown";
7              }
8              enum "initial" {
9                  description
10                     "The Verify State diagram (Figure 99?)
11                     is in the state
12                     INIT_VERIFICATION";
13             }
14             enum "verifying" {
15                 description
16                     "The Verify State diagram is in the state
17                     VERIFICATION_IDLE,
18                     SEND_VERIFY or WAIT_FOR_RESPONSE";
19             }
20             enum "succeeded" {
21                 description
22                     "Indicates that the Verify State diagram
23                     is in the state VERIFIED";
24             }
25             enum "failed" {
26                 description
27                     "The Verify State diagram is in the state
28                     VERIFY_FAIL";
29             }
30             enum "disabled" {
31                 description "Verification of preemption oper-
32                 ation is disabled";
33             }
34         }
35         description
36             "This attribute indicates (when accessed via a
37             GET operation) the status of the
38             MAC Merge sublayer verification on the given device. The SET operation
39             shall have
40             no effect on a device.";
41         reference
42             "30.14.1.2";
43     }
44     leaf status-tx {
45         type enumeration {
46             enum "unknown" {
47                 description
48                     "transmit preemption status is unknown";
49             }
50             enum "inactive" {
51                 description
52                     "transmit preemption is inactive";
53             }
54             enum "active" {

```

```

1          description
2              "transmit preemption is active";
3          }
4      }
5  }
6  description
7      "This attribute indicates (when accessed via a
8  GET operation) the status of the
9  MAC Merge sublayer on the given device in the transmit direction. The
10 SET
11 operation shall have no effect on a device. This attribute maps to the
12 variable
13 preempt (see 99.4.7.3).";
14     reference
15         "30.14.1.5";
16     }
17 }
18 }
19 }
20 }
21 }
22     container statistics {
23         config false;
24         leaf assembly-error-count {
25             type yang:counter64;
26             description
27                 "A count of MAC frames with reassembly errors.
28 The counter is incremented by one
29 every time the ASSEMBLY_ERROR state in the Receive Processing
30 State Diagram is
31 entered";
32             reference
33                 "30.14.1.8";
34         }
35         leaf smd-error-count {
36             type yang:counter64;
37             description
38                 "A count of received MAC frames / MAC frame frag-
39 ments rejected due to unknown SMD
40 value or arriving with an SMD-C when no frame is in progress. The
41 counter is
42 incremented by one every time the BAD_FRAG state in the Receive Pro-
43 cessing State
44 Diagram is entered and every time the WAIT_FOR_DV_FALSE state is
45 entered due to
46 the invocation of the SMD_DECODE function returning the value ERR";
47             reference
48                 "30.14.1.9";
49         }
50         leaf assembly-ok-count {
51             type yang:counter64;
52             description
53                 "count of MAC frames that were successfully reas-
54 sembled and delivered to MAC. The
55 counter is incremented by one every time the FRAME_COMPLETE state in
56 the Receive
57 Processing state diagram (see Figure 99-6) is entered if the state
58 CHECK_FOR_RESUME was previously entered while processing the packet";
59 }
60 }
61 }
62 }
63 }
64 }
65 }

```



```

1          reference
2              "30.14.1.10";
3      }
4      leaf fragment-count-rx {
5          type yang:counter64;
6          description
7              "A count of the number of additional mPackets
8 received due to preemption. The
9 counter is incremented by one every time the state CHECK_FRAG_CNT in
10 the Receive
11 Processing State Diagram (see Figure 99-6) is entered";
12          reference
13              "30.14.1.11";
14      }
15      leaf fragment-count-tx {
16          type yang:counter64;
17          description
18              "A count of the number of additional mPackets
19 transmitted due to preemption. This
20 counter is incremented by one every time the SEND_SMD_C state in the
21 Transmit
22 Processing State Diagram (see Figure 99-5) is entered.";
23          reference
24              "30.14.1.12";
25      }
26      leaf hold-count {
27          type yang:counter64;
28          description
29              "A count of the number of times the variable hold
30 (see 99.4.7.3) transitions from
31 FALSE to TRUE.";
32          reference
33              "30.14.1.13";
34      }
35  }
36  }
37  }
38  }
39  }
40  }
41  }
42  }
43  }
44  }
45  }
46  }
47  }
48  }

```

### 5.3.2.4 Ethernet LLDP module

```

51 module ieee802-ethernet-lldp {
52     yang-version 1.1;
53     namespace "urn:ieee:std:802.3:yang:ieee802-ethernet-lldp";
54     prefix ieee802-eth-lldp;
55
56     import ieee802-dot1ab-lldp {
57         prefix lldp;
58         reference
59             "IEEE Std 802.1ABcu-2021";
60     }
61
62     organization
63         "IEEE Std 802.3 Ethernet Working Group
64
65

```

```
1      Web URL: http://www.ieee802.org/3/";
2  contact
3      "Web URL: http://www.ieee802.org/3/";
4  description
5      "This module contains YANG definitions for configuring LLDP for
6      802.3 Ethernet Interfaces.
7      In this YANG module, 'Ethernet interface' can be interpreted
8      as referring to 'IEEE Std 802.3 compliant Ethernet
9      interfaces'.";
10
11
12  revision 2023-0710-01-17 {
13      description
14          "Initial revision.";
15      reference
16          "IEEE Std 802.3.2a, unless dated explicitly";
17  }
18
19  typedef port-class-type {
20      type enumeration {
21          enum p-class-pse {
22              value 0;
23              description
24                  "Power Sourcing Equipment";
25          }
26          enum p-class-pd {
27              value 1;
28              description
29                  "Powered Device";
30          }
31      }
32  }
33
34  description
35      "Enumeration for the power port class";
36  reference
37      "30.12.2.1.5 of IEEE Std IEEE Std 802.3-2022";
38  }
39
40  typedef pse-pinout-type {
41      type enumeration {
42          enum signal {
43              value 0;
44              description
45                  "PSE Pinout Alternative A";
46          }
47          enum spare {
48              value 1;
49              description
50                  "PSE Pinout Alternative B";
51          }
52      }
53  }
54
55  description
56      "Enumeration for the pinout alternatives used for PD detection and power ";
57  reference
58      "30.912.12.1.4-9 of IEEE Std IEEE Std 802.3-2022";
59  }
60
61  typedef pse-power-class-type {
62      type enumeration {
63          enum class0 {
64              value 0;
```

```

1      description
2      "Class 0 PD";
3  }
4  enum class1 {
5      value 1;
6      description
7      "Class 1 PD";
8  }
9
10     enum class2 {
11         value 2;
12         description
13         "Class 2 PD";
14     }
15     enum class3 {
16         value 3;
17         description
18         "Class 3 PD";
19     }
20     enum class4 {
21         value 4;
22         description
23         "Class 4 PD";
24     }
25 }
26
27     description
28     "Enumeration for the PD class";
29     reference
30     "30.12.2.1.10 of IEEE Std IEEE Std 802.3-2022";
31 }
32
33 typedef power-class-ext-AB-type {
34     type enumeration {
35         enum singlesig {
36             value 0;
37             description
38             "Single-signature PD or 2-pair only PSE";
39         }
40         enum class1 {
41             value 1;
42             description
43             "Class 1";
44         }
45         enum class2 {
46             value 2;
47             description
48             "Class 2";
49         }
50         enum class3 {
51             value 3;
52             description
53             "Class 3";
54         }
55         enum class4 {
56             value 4;
57             description
58             "Class 4";
59         }
60         enum class5 {
61             value 5;
62             description
63             "Class 5";
64         }
65     }

```

```

1          "Class 5";
2      }
3    }
4    description
5      "Enumeration for the assigned power class ";
6    reference
7      "30.12.3.1.26 of IEEE Std IEEE Std 802.3-2022";
8    }
9
10 typedef pse-power-class-ext-type {
11   type enumeration {
12     enum class0-dualsig {
13       value 0;
14       description
15         "Class 0-Dual-signature PD";
16     }
17     enum class1 {
18       value 1;
19       description
20         "Class 1-PD1";
21     }
22     enum class2 {
23       value 2;
24       description
25         "Class 2-PD2";
26     }
27     enum class3 {
28       value 3;
29       description
30         "Class 3-PD3";
31     }
32     enum class4 {
33       value 4;
34       description
35         "Class 4-PD4";
36         "Class 4 PD";
37     }
38     enum class5 {
39     enum class5 {
40       value 5;
41       description
42           "Class 5";
43     description
44         "Enumeration for the PD class";
45     enum class6 {
46     enum class6 {
47       "Enumeration for the PD class"value 6;
48       referencedescription
49       "30.9.1.1.6 of IEEE Std 802.3-2022"Class 6";
50     }
51
52     enum class7 {
53       value 7;
54       description
55         "Class 7";
56     }
57     enum class8 {
58       value 8;
59       description
60         "Class 8";
61     }
62   }
63   description
64       "Enumeration for the assigned power class ";
65

```

```
1   reference
2   "30.12.3.1.28 of IEEE Std IEEE Std 802.3-2022";
3   }
4   typedef power-type {
5   type enumeration {
6   enum type4dualsigPD {
7   value 0;
8   description
9   "Type 4 dual-signature PD";
10  }
11  enum type4singlesigPD {
12  value 1;
13  description
14  "Type 4 single-signature PD";
15  }
16  enum type3dualsigPD {
17  value 2;
18  description
19  "Type 3 dual-signature PD";
20  }
21  enum type3singlesigPD {
22  value 3;
23  description
24  "Type 3 single-signature PD";
25  }
26  enum type4PSE {
27  value 4;
28  description
29  "Type 4 PSE";
30  }
31  enum type3PSE {
32  value 5;
33  description
34  "Type 3 PSE";
35  }
36  }
37  description
38  "Enumeration for the PD class";
39  reference
40  "30.12.2.1.29 of IEEE Std IEEE Std 802.3-2022";
41  }
42  typedef power-priority-type {
43  type enumeration {
44  enum low {
45  value 0;
46  description
47  "low priority PD";
48  }
49  enum high {
50  value 1;
51  description
52  "high priority PD";
53  }
54  enum critical {
55  value 2;
56  description
57  "critical priority PD";
58  }
59  enum unknown {
```

```

1      value 3;
2      description
3          "priority unknown";
4      }
5  }
6  description
7      "Enumeration for possible priorities of a PD system";
8  reference
9      "30.12.2.1.16 of IEEE Std IEEE Std 802.3-2022";
10 }
11
12
13 typedef power-source-type {
14     type enumeration {
15         enum pse-primary {
16             value 0;
17             description
18                 "PSE powered by a primary power source";
19         }
20         enum pse-backup {
21             value 1;
22             description
23                 "PSE powered by a backup power source";
24         }
25         enum pse-unknown {
26             value 2;
27             description
28                 "PSE powered by an unknown power source";
29         }
30         enum pd-pse-and-local {
31             value 3;
32             description
33                 "PD powered by a PSE and locally";
34         }
35         enum pd-local-only {
36             value 4;
37             description
38                 "PD powered only locally";
39         }
40         enum pd-pse-only {
41             value 5;
42             description
43                 "PD powered by PD only";
44         }
45         enum pd-unknown {
46             value 6;
47             description
48                 "PD powered by an unknown source";
49         }
50     }
51     description
52         "Enumeration for the power sources of the
53         remote system. When the remote system is a PSE, it indicates
54         remote system. When the remote system whether it is being powered
55         by a primary power source; a PSE, it indicates backup
56         remote system power source; or unknown. When the remote system is a
57         PSEPD, it indicates it
58         indicates whether it is being powered by a primary power source; a
59         backup PSE and locally;
60         locally only; by a PSE only; or unknown."

```

```
1  reference
2  "30.12.2.1.15 of IEEE Std IEEE Std 802.3-2022";
3  }
4  typedef powering-status-type {
5    type enumeration {
6      enum 4PdualsigPD {
7        value 0;
8        description
9          "4-pair powering a dual-signature PD";
10     }
11     enum 4PsigPD {
12       value 1;
13       description
14         "4-pair powering a single-signature PD";
15     }
16     enum 2P {
17       value 2;
18       description
19         "2-pair powering";
20     }
21   }
22   description
23     "Enumeration for the power status of the PSE";
24   reference
25     "30.12.2.1.23 of IEEE Std IEEE Std 802.3-2022";
26   }
27 typedef powered-status-type {
28   type enumeration {
29     enum 4PdualsigPD {
30       value 0;
31       description
32         "4-pair powered dual-signature PD";
33     }
34     enum 2PdualsigPD {
35       value 1;
36       description
37         "2-pair powered dual-signature PD";
38     }
39     enum singlesigPD {
40       value 2;
41       description
42         "powered single-signature PD";
43     }
44   }
45   description
46     "Enumeration for the power status of the PSE";
47   reference
48     "30.12.2.1.24 of IEEE Std IEEE Std 802.3-2022";
49   }
50 typedef power-pairs-type {
51   type enumeration {
52     enum altA {
53       value 0;
54       description
55         "Alternative A";
56     }
57     enum altB {
58       value 1;
59       description
60     }
61   }
62   description
63     "Enumeration for the power status of the PSE";
64   reference
65     "30.12.2.1.24 of IEEE Std IEEE Std 802.3-2022";
66   }
```

```

1  power source; or unknown. When the remote system is a PD,
2  it "Alternative B";
3  }
4  enum both {
5      indicates whether it is being powered by a PSE and locally value
6  2;
7      indicates whether it is being powered by a PSE and
8  locally; description
9  "both";
10 }
11 }
12 }
13 description
14     locally only; by a "Enumeration for the PSE only; or unknown. Pin-
15 out Alternative";
16 reference
17 "30.12.2.1.15-25 of IEEE Std IEEE Std 802.3-2022";
18 }
19
20
21 augment "/lldp:lldp/lldp:port" {
22   description
23     "Augments port with 802.3 port config tlvs";
24   leaf tlvs-port-config-enable {
25     type bits {
26       bit mac-phy-config-status {
27         position 0;
28         description
29           "30.12.1.1.1 of IEEE Std 802.3-2022";
30       }
31       bit power-via-mdi {
32         position 1;
33         description
34           "30.12.1.1.1 of IEEE Std 802.3-2022";
35       }
36       bit unused {
37         position 2;
38         description
39           "30.12.1.1.1 of IEEE Std 802.3-2022";
40       }
41       bit max-frame-size {
42         position 3;
43         description
44           "30.12.1.1.1 of IEEE Std 802.3-2022";
45       }
46       bit eee-tlv {
47         position 4;
48         description
49           "30.12.1.1.1 of IEEE Std 802.3-2022";
50       }
51       bit eee-fast-wake-tlv {
52         position 5;
53         description
54           "30.12.1.1.1 of IEEE Std 802.3-2022";
55       }
56       bit additional-ethernet-capabilities-tlv {
57         position 6;
58         description
59           "30.12.1.1.1 of IEEE Std 802.3-2022";
60       }
61     }
62   }
63 }
64
65

```



```
1      description
2          "Bitmap that corresponds to an IEEE 802.3 subtype associated
3          with a specific IEEE 802.3 port config TLV";
4      reference
5          "30.12.1.1.1 of IEEE Std 802.3-2022";
6  }
7  leaf auto-negotiation-supported {
8      type boolean;
9      config false;
10     description
11         "True if the port supports Auto-negotiation";
12     reference
13         "30.12.2.1.1 of IEEE Std IEEE Std 802.3-2022";
14 }
15 leaf auto-negotiation-enabled {
16     type boolean;
17     config false;
18     description
19         "True if Auto-negotiation is enabled";
20     reference
21         "30.12.2.1.2 of IEEE Std IEEE Std 802.3-2022";
22 }
23 leaf auto-negotiation-cap {
24     type binary {
25         length "2";
26     }
27     config false;
28     description
29         "A read-only 2-octet value that contains the value (bitmap) of the ifMau-
30         AutoNegCapAdvertisedBits object (defined in IETF RFC 4836)
31         which is associated with the given port on the local system.";
32     reference
33         "30.12.2.1.3 of IEEE Std IEEE Std 802.3-2022";
34 }
35 leaf operational-mau-type {
36     type int32;
37     config false;
38     description
39         "32-bit integer value that indicates the operational MAU type of the given
40         port";
41     reference
42         "30.12.2.1.4 of IEEE Std IEEE Std 802.3-2022";
43 }
44 leaf power-port-class {
45     type port-class-type;
46     config false;
47     description
48         "A read-only value that identifies the port Class of the given port";
49     reference
50         "30.12.2.1.5 of IEEE Std IEEE Std 802.3-2022";
51 }
52 leaf mdi-power-supported {
53     type boolean;
54     config false;
55     description
56         "True if MDI power is supported";
57     reference
58         "30.12.2.1.6 of IEEE Std IEEE Std 802.3-2022";
59 }
```

```
1      leaf mdi-power-enabled {
2          type boolean;
3          config false;
4          description
5              "True if MDI power is enabled";
6          reference
7              "30.12.2.1.7 of IEEE Std IEEE Std 802.3-2022";
8      }
9
10     leaf power-pair-controlable {
11         type boolean;
12         config false;
13         description
14             "True if the pair selection can be controlled";
15         reference
16             "30.12.2.1.8 of IEEE Std IEEE Std 802.3-2022";
17     }
18
19     leaf power-pairs {
20         type pse-pinout-type;
21         config false;
22         description
23             "Indicates which pinout alternative is used for PD detection and power";
24         reference
25             "30.12.2.1.9 of IEEE Std IEEE Std 802.3-2022";
26     }
27
28     leaf local-power-class {
29         type pse-power-class-type;
30         config false;
31         description
32             "PD Power Class";
33         reference
34             "30.12.2.1.10 of IEEE Std IEEE Std 802.3-2022";
35     }
36
37     leaf link-aggregation-status {
38         type bits {
39             bit aggregation-capability {
40                 position 0;
41                 description
42                     "79.3.3.1 of IEEE Std 802.3-2022";
43             }
44             bit aggregation-status {
45                 position 1;
46                 description
47                     "79.3.3.1 of IEEE Std 802.3-2022";
48             }
49         }
50         config false;
51         description
52             "The bitmap value which contains the link aggregation capabilities and
53 the current aggregation
54             status of the link";
55         reference
56             "30.12.2.1.11 of IEEE Std 802.3-2022";
57     }
58
59     leaf aggregation-port-id {
60         type int32;
61         config false;
62         description
63             "The unique identifier allocated to this Aggregation Port by the local
64 System.";
```

```

1      reference
2      "30.12.2.1.12 of IEEE Std IEEE Std 802.3-2022";
3  }
4  leaf local-max-frame-size {
5      type int32;
6      config false;
7      description
8          "An integer value indicating the maximum supported frame size in octets
9  on the given port of the local system.";
10     reference
11         "30.12.2.1.13 of IEEE Std IEEE Std 802.3-2022";
12     }
13     leaf power-type {
14         type bits {
15             bit type1-or-type2-greater {
16                 position 0;
17                 description
18                     "0-type1, 1-type2 greater than type1";
19             }
20             bit pse-or-pd {
21                 position 1;
22                 description
23                     "0-pse, 1-pd";
24             }
25         }
26         config false;
27         description
28             "A GET attribute that returns a bit string indicating whether the local
29 system is a PSE or a PD and whether it is Type 1 or Type 2. The first bit
30 indicates Type 1 or Type 2.
31 "A bit string indicating whether the local system is a PSE or a
32 PD and whether it is Type 1 or greater than Type 21. The first bit indicates
33 Type 1 or greater than Type 21.
34 The second bit indicates PSE or PD. A PSE sets this bit to indicate
35 a PSE. A PD sets this bit to
36 indicate a PD. See also aLldpXdot3LocPowerTypeExt..";
37     reference
38         "30.12.2.1.14 of IEEE Std 802.3-2022";
39     }
40     leaf power-source {
41         The second bit indicates PSE or PD."type power-source-type;
42         The second bit indicates PSE or PD."config false;
43         referencedescription
44             "Indicates the power sources of the local system. A PSE indicates whether
45 it is being powered by a primary power source; a backup power source; or unknown.
46 A PD indicates whether it is being powered by a PSE and locally; by a PSE only;
47 or
48 "30unknown.12.2.1.14 of IEEE Std 802.3-2022";
49 reference
50 "30.12.2.1.15 of IEEE Std 802.3-2022";
51 leaf power-source {
52 type leaf local-power-source-type; priority {
53 type power-priority-type;
54 config false;description
55         "Priority of a PD system. For a PSE, this is the priority that the PSE
56 assigns to the PD.
57 For a PD, this is the priority that the PD requests from the PSE";
58 descriptionreference

```

```

----- "Indicates the power sources of the local system. A PSE indicates
whether it is being powered by a primary power source; a backup power
source; or unknown. A PD indicates whether it is being powered by a PSE
and locally; by a PSE only; or
"30.12.2.1.16 of IEEE Std IEEE Std 802.3-2022";
}
leaf pd-requested-power-value {
type int32;
config false;
description
"PD requested power value. For a PD, it is the power value that the PD has
currently requested from the remote system.
For a PSE, it is the power value that the PSE mirrors back to the
remote system";
reference
"30.12.2.1.17 of IEEE Std IEEE Std 802.3-2022";
}
leaf pd-requested-power-value-a {
type int32;
config false;
description
"A GET attribute that returns the PD requested power value for the Mode A
pairset in units of 0.1 W.
For a PD, it is the power value that the PD has currently requested
from the remote system
for the Mode A pairset. For a PSE, it is the power value for the
Alternative A pairset that the PSE
echoes back to the remote system";
reference
"30.12.2.1.18 of IEEE Std IEEE Std 802.3-2022";
}
leaf pd-requested-power-value-b {
type int32;
config false;
unknown.;description
"A GET attribute that returns the PD requested power value for the Mode B
pairset in units of 0.1 W.
For a PD, it is the power value that the PD has currently requested
from the remote system
for the Mode B pairset. For a PSE, it is the power value for the
Alternative B pairset that the PSE
echoes back to the remote system";
reference
"30.12.2.1.15-19 of IEEE Std IEEE Std 802.3-2022";
}
leaf localpse-allocatedpower-priority-value {
leaf local-power-priority{type int32;
type power-priority-typeconfig false;
description
"Priority of a PD systemPSE allocated power value. For a PSE, this-it
is the priority-power value that the PSE assigns-has currently allocated to the
PDremote system.
For a PD, this-it is the priority-power value that the PD
requests-from-mirrors back to the PSEremote syste";
reference
"30.12.2.1.16-20 of IEEE Std IEEE Std 802.3-2022";
}
leaf pdpse-requestedallocated-power-value-value-a {

```

```

1      type int32;
2      config false;
3      description
4          "PD requested power value. For a PD, it is the " "PSE allocated power
5 value that for the Alternative PD has currently requested from the remote
6 systemA pairset in units of 0.1 W.
7 "
8          For a PSE, it is the power value for the Alternative A pairset
9 that the PSE mirrors back to the remote system"; has currently
10         allocated to the remote system. For a PD, it is the power value for
11 the Mode A pairset that the PD
12 echoes back to the remote system.";
13         reference
14             "30.12.2.1.21 of IEEE Std IEEE Std 802.3-2022";
15     }
16     leaf pse-allocated-power-value-b {
17         type int32;
18         config false;
19         description
20             "PSE allocated power value for the Alternative B pairset in units of 0.1
21 W.
22 For a PSE, it is the power value for the Alternative B pairset that
23 the PSE has currently
24 allocated to the remote system. For a PD, it is the power value for
25 the Mode B pairset that the PD
26 echoes back to the remote system.";
27         reference
28             "30.12.2.1.22 of IEEE Std IEEE Std 802.3-2022";
29     }
30     leaf pse-powering-status {
31         type powering-status-type;
32         config false;
33         description
34             "A read only value that indicates the powering status of the PSE. For a
35 PD, the contents of this
36 attribute are undefined.";
37         reference
38             "30.12.2.1.23 of IEEE Std IEEE Std 802.3-2022";
39     }
40     — reference
41     leaf psepd-poweredallocated-power-value-status {
42         type powered-status-type;
43         config false;
44         description
45             "A read only value that indicates the powering status of the PD. For a
46 PSE, the contents of this attribute are undefined";
47         reference
48             "30.12.2.1.17-24 of IEEE Std IEEE Std 802.3-2022";
49     }
50     leaf psepower-pairsallocated-power-value-ext {
51         type int32power-pairs-type;
52         config false;
53         description
54             "PSE allocated power value. For a PSE, it is the power " "A read-
55 only value that identifies the supported PSE has currently allocated to the
56 remote systemPinout Alternative specified in 145.2.4. For a
57 PSE, this attribute contains the value of the aPSEPowerPairs attri-
58 bute (see 30.9.1.1.4). For a PD,
59 the contents of this attribute are undefined";
60         reference
61             "30.12.2.1.25 of IEEE Std IEEE Std 802.3-2022";
62     }

```

```

1  }
2  leaf power-class-ext-A {
3    type power-class-ext-AB-type;
4    config false;
5    description
6      "For a dual-signature PD, a read-only value that indicates the requested
7      Class for Mode A during
8        Physical Layer Classification (see 145.3.6). For a single-signature
9        PD, a read-only value set to
10         'singlesig'. For a PSE connected to a dual-signature PD, a read-only
11         value that indicates the currently assigned
12         Class for Mode A (see 145.2.8). For a PSE connected to a single-
13         signature PD or a PSE that
14         operates only in 2-pair mode, a read-only value set to 'sin-
15         glesig'";
16    reference
17      "30.12.2.1.26 of IEEE Std IEEE Std 802.3-2022";
18  }
19  leaf power-class-ext-B {
20    type power-class-ext-AB-type;
21    config false;
22    description
23      "For a dual-signature PD, a read-only value that indicates the requested
24      Class for Mode B during
25        Physical Layer Classification (see 145.3.6). For a single-signature
26        PD, a read-only value set to
27         'singlesig'. For a PSE connected to a dual-signature PD, a read-only
28         value that indicates the currently assigned
29         Class for Mode B (see 145.2.8). For a PSE connected to a single-
30         signature PD or a PSE that
31         operates only in 2-pair mode, a read-only value set to 'sin-
32         glesig'";
33    reference
34      "30.12.2.1.27 of IEEE Std IEEE Std 802.3-2022";
35  }
36  leaf power-class-ext {
37    type power-class-ext-type;
38    config false;
39    description
40      "For a single-signature PD, a read-only value that indicates the
41      requested Class during Physical
42      Layer Classification (see 145.3.6). For a dual-signature PD, a
43      read-only value set to 'dualsig'.?
44      For a PSE connected to a single-signature PD or a PSE that operates
45      only in 2-pair mode, a read-
46      only value that indicates the currently assigned Class (see
47      145.2.8). For a PSE connected to a dual-
48      signature PD, a read-only value set to 'dualsig'.";
49    reference
50      "30.12.2.1.28 of IEEE Std IEEE Std 802.3-2022";
51  }
52  leaf power-type-ext {
53    type power-type;
54    config false;
55    description
56      "A read-only attribute that returns a value to indicate if the local sys-
57      tem is a Type 3 or Type 4 PSE
58      or PD and, in the case of a Type 3 or Type 4 PD, if it is a single-
59      signature PD or a dual-signature
60      signature PD or a dual-signature
61      signature PD or a dual-signature
62      signature PD or a dual-signature
63      signature PD or a dual-signature
64      signature PD or a dual-signature
65      signature PD or a dual-signature

```

```

1         PD";
2         reference
3         "30.12.2.1.29 of IEEE Std IEEE Std 802.3-2022";
4     }
5     leaf pd-load {
6         type boolean;
7         config false;
8         description
9         "For a dual-signature PD, it is the power value a GET attri-
10        bute that returns whether the load of a dual-signature PD mirrors back to the
11        remote system; is
12        electrically isolated, as defined in 79.3.2.10.2. For a single-sig-
13        nature PD or a PSE, the value of this
14        attribute is FALSE";
15        reference
16        "30.12.2.1.30 of IEEE Std IEEE Std 802.3-2022";
17    }
18    leaf pd-4pid {
19        type boolean;
20        config false;
21        referencedescription
22        "A read-only value that identifies Boolean attribute indicating whether
23        the port Class local PD system supports powering of the given port; both
24        PD Modes.";
25        reference
26        "30.12.2.1.18-31 of IEEE Std IEEE Std 802.3-2022";
27    }
28    leaf pse-max-avail-power {
29        leaf local-response-time {type int32;
30        type int32;config false;
31        config false;description
32        "A GET attribute that returns the local PSE maximum available power value
33        in units of 0.1 W";
34        descriptionreference
35        "30.12.2.1.32 of IEEE Std IEEE Std 802.3-2022";
36    }
37    leaf pse-autoclass-support {
38        type boolean;
39        config false;
40        description
41        "The maximum time required to update pse-allocated power value
42        Indicates whether the local PSE system supports Autoclass.";
43        reference
44        "30.12.2.1.19-33 of IEEE Std IEEE Std 802.3-2022";
45    }
46    leaf localautoclass-system-ready-completed {
47        type boolean;
48        config false;
49        description
50        "Initialization status of Indicates whether the Data Link Layer
51        classification engine on local PSE system has completed the local systemAu-
52        toclass measurement.";
53        reference
54        "30.12.2.1.34 of IEEE Std IEEE Std 802.3-2022";
55    }
56    leaf autoclass-request {
57        type boolean;
58        config false;
59        description

```

```

1      "A read-only Boolean attribute indicating whether the local PD system is
2      requesting an Autoclass measurement.";
3      reference
4      "30.12.2.1.35 of IEEE Std IEEE Std 802.3-2022";
5  }
6      leaf power-down-request {
7          type int32;
8          description
9              "A SET attribute that indicates the local PD system is requesting a power
10             down when the value is 0x1D.";
11          reference
12              "30.12.2.1.36 of IEEE Std IEEE Std 802.3-2022";
13      }
14      leaf power-down-time {
15          type int32;
16          description
17              "A SET attribute that indicates the number of seconds the PD requests to
18              stay powered off. A value of zero indicates an indefinite amount of time";
19          reference
20              "30.12.2.1.37 of IEEE Std IEEE Std 802.3-2022";
21      }
22      leaf meas-voltage-support {
23          type boolean;
24          config false;
25          description
26              "A GET attribute that indicates the local device is capable of providing
27              a voltage measurement.";
28          reference
29              "30.12.2.1.38 of IEEE Std IEEE Std 802.3-2022";
30      }
31      leaf meas-current-support {
32          type boolean;
33          config false;
34          description
35              "A GET attribute that indicates the local device is capable of providing
36              a current measurement.";
37          reference
38              "30.12.2.1.39 of IEEE Std IEEE Std 802.3-2022";
39      }
40      leaf meas-power-support {
41          type boolean;
42          config false;
43          description
44              "A GET attribute that indicates the local device is capable of providing
45              a power measurement.";
46          reference
47              "30.12.2.1.40 of IEEE Std IEEE Std 802.3-2022";
48      }
49      leaf meas-energy-support {
50          reference type boolean;
51          config false;
52          description
53              "30.12.2.1.20-A GET attribute that indicates the local device is capable
54              of IEEE Std 802.3-2022 providing a energy measurement.3-2022";
55          reference
56              "30.12.2.1.41 of IEEE Std IEEE Std 802.3-2022";
57      }
58      leaf reducedmeasurement-operation-power-value-source {
59          type int32bits {
60
61
62
63
64
65

```



```

1  __ config false; bit bit1 {
2  __ description position 0;
3  __ description
4  __ "Reduced operation power value. For a PD, it is a power value
5 that-";
6 __ }
7 __ bit bit2 {
8 __ position 1;
9 __ description
10 __ "is lower than the currently requested power value. This
11 reduced operation power value represents "-";
12 __ a power state in which the PD could continue to operate,
13 but with less functionality than at the
14 __ current PD requested power value. The PSE could optionally
15 use this information in the event that
16 __ the PSE subsequently requests a lower PD power value than
17 the PD requested power value. For a
18 __ PSE, it is a power value that the PSE could ask the PD to
19 move to if the PSE wants the PD to move
20 __ }
21 __ }
22 __ description
23 __ "A SET attribute value that indicates to local device on which Alternative
24 or Mode the measurement
25 __ is to be taken";
26 __ reference
27 __ "30.12.2.1.42 of IEEE Std 802.3-2022";
28 __ }
29 __ leaf meas-voltage-request {
30 __ type boolean;
31 __ config false;
32 __ description
33 __ "A GET attribute that indicates the local device is requesting a voltage
34 measurement from the remote device.;"
35 __ reference
36 __ "30.12.2.1.43 of IEEE Std IEEE Std 802.3-2022";
37 __ }
38 __ leaf meas-current-request {
39 __ type boolean;
40 __ config false;
41 __ description
42 __ "A GET attribute that indicates the local device is requesting a current
43 measurement from the remote device.;"
44 __ reference
45 __ "30.12.2.1.44 of IEEE Std IEEE Std 802.3-2022";
46 __ }
47 __ leaf meas-power-request {
48 __ type boolean;
49 __ config false;
50 __ description
51 __ "A GET attribute that indicates the local device is requesting a power
52 measurement from the remote device.;"
53 __ reference
54 __ "30.12.2.1.45 of IEEE Std IEEE Std 802.3-2022";
55 __ }
56 __ leaf meas-energy-request {
57 __ type boolean;
58 __ config false;

```

```

1      description
2      "A GET attribute that indicates the local device is requesting an energy
3      measurement from the remote device.";
4      reference
5      "30.12.2.1.46 of IEEE Std IEEE Std 802.3-2022";
6      }
7
8      leaf meas-voltage-valid {
9      type boolean;
10     config false;
11     description
12     "A GET attribute that indicates the local device's voltage measurement is
13     valid.";
14     reference
15     "30.12.2.1.47 of IEEE Std IEEE Std 802.3-2022";
16     }
17
18     leaf meas-current-valid {
19     type boolean;
20     config false;
21     description
22     "A GET attribute that indicates the local device's current measurement is
23     valid.";
24     reference
25     "30.12.2.1.48 of IEEE Std IEEE Std 802.3-2022";
26     }
27
28     leaf meas-power-valid {
29     type boolean;
30     config false;
31     description
32     "A GET attribute that indicates the local device's power measurement is
33     valid.";
34     reference
35     "30.12.2.1.49 of IEEE Std IEEE Std 802.3-2022";
36     }
37
38     leaf meas-energy-valid {
39     type boolean;
40     config false;
41     description
42     "A GET attribute that indicates the local device's energy measurement is
43     valid.";
44     reference
45     "30.12.2.1.50 of IEEE Std IEEE Std 802.3-2022";
46     }
47
48     leaf meas-voltage-uncertainty {
49     type int32;
50     config false;
51     description
52     "A GET attribute that indicates the expanded uncertainty (coverage factor
53     k = 2) for the device's voltage measurement.";
54     reference
55     "30.12.2.1.51 of IEEE Std IEEE Std 802.3-2022";
56     }
57
58     leaf meas-current-uncertainty {
59     type int32;
60     config false;
61     description
62     "A GET attribute that indicates the expanded uncertainty (coverage factor
63     k = 2) for the device's current measurement.";
64     reference
65     "30.12.2.1.52 of IEEE Std IEEE Std 802.3-2022";

```

```
1  }
2  leaf meas-power-uncertainty {
3  type int32;
4  config false;
5  description
6  "A GET attribute that indicates the expanded uncertainty (coverage factor
7  k = 2) for the device's power measurement.";
8  reference
9  "30.12.2.1.53 of IEEE Std IEEE Std 802.3-2022";
10 }
11 leaf meas-energy-uncertainty {
12 type int32;
13 config false;
14 description
15 "A GET attribute that indicates the expanded uncertainty (coverage factor
16 k = 2) for the device's energy measurement.";
17 reference
18 "30.12.2.1.54 of IEEE Std IEEE Std 802.3-2022";
19 }
20 leaf voltage-measurement {
21 type int32;
22 config false;
23 description
24 "A GET attribute that returns the measured device voltage.";
25 reference
26 "30.12.2.1.55 of IEEE Std IEEE Std 802.3-2022";
27 }
28 leaf current-measurement {
29 type int32;
30 config false;
31 description
32 "A GET attribute that returns the measured device current.";
33 reference
34 "30.12.2.1.56 of IEEE Std IEEE Std 802.3-2022";
35 }
36 leaf power-measurement {
37 type int32;
38 config false;
39 description
40 "A GET attribute that returns the measured device power.";
41 reference
42 "30.12.2.1.57 of IEEE Std IEEE Std 802.3-2022";
43 }
44 leaf energy-measurement {
45 type int32;
46 config false;
47 description
48 "A GET attribute that returns the measured device energy.";
49 reference
50 "30.12.2.1.58 of IEEE Std IEEE Std 802.3-2022";
51 }
52 leaf pse-power-price-index {
53 type int32;
54 config false;
55 description
56 "A GET attribute that returns an index of the price of power being sourced
57 by the PSE. For a PD, this value is undefined";
58 reference
59 "30.12.2.1.59 of IEEE Std IEEE Std 802.3-2022";
60 }
```

```

1  }
2  leaf local-response {
3      type int32;
4      config false;
5      description
6          "The maximum time required to update pse-allocated-power-value";
7      reference
8          "30.12.2.1.60 of IEEE Std IEEE Std 802.3-2022";
9  }
10 leaf local-system-ready {
11     type boolean;
12     to a lower power state. config false;
13     description
14         "Initialization status of the Data Link Layer classification engine on
15         the local system";
16     reference
17         "30.12.2.1.21-61 of IEEE Std IEEE Std 802.3-2022";
18 }
19 leaf tx-system-value {
20     type int32;
21     config false;
22     description
23         "Returns the value of Tw_sys_tx that the local system can support in the
24         transmit direction.";
25     reference
26         "30.12.2.1.22-62 of IEEE Std IEEE Std 802.3-2022";
27 }
28 leaf tx-system-value-echo {
29     type int32;
30     config false;
31     description
32         "Returns the value of Tw_sys_tx that the emote system is advertising that
33         it can support in the transmit direction and is echoed by the local system under
34         the control of the EEE DLL receiver state diagram.";
35     reference
36         "30.12.2.1.23-63 of IEEE Std IEEE Std 802.3-2022";
37 }
38 leaf rx-system-value {
39     type int32;
40     config false;
41     description
42         "Returns the value of Tw_sys_tx that the local system is requesting in the
43         receive direction.";
44     reference
45         "30.12.2.1.24-64 of IEEE Std IEEE Std 802.3-2022";
46 }
47 leaf rx-system-value-echo {
48     type int32;
49     config false;
50     description
51         "Returns the value of Tw_sys_tx that the remote system is advertising that
52         it is requesting in the receive direction and is echoed by the local system under
53         the control of the EEE DLL transmitter state diagram.";
54     reference
55         "30.12.2.1.25-65 of IEEE Std IEEE Std 802.3-2022";
56 }
57 leaf fallback-system-value {
58     type int32;
59     config false;
60 }
61

```

```
1      description
2          "Returns the value of the fallback Tw_sys_tx that the local system is
3      advertising to the remote system.";
4      reference
5          "30.12.2.1.26-66 of IEEE Std IEEE Std 802.3-2022";
6      }
7      leaf tx-dll-ready {
8          type boolean;
9          config false;
10         description
11             "Returns the initialization status of the EEE transmit Data Link Layer
12         management function on the local system.";
13         reference
14             "30.12.2.1.27-67 of IEEE Std IEEE Std 802.3-2022";
15         }
16         leaf rx-dll-ready {
17             type boolean;
18             config false;
19             description
20                 "Returns the initialization status of the EEE receive Data Link Layer man-
21             agement function on the local system.";
22             reference
23                 "30.12.2.1.28-68 of IEEE Std IEEE Std 802.3-2022";
24             }
25             leaf dll-enabled {
26                 type boolean;
27                 config false;
28                 description
29                     "Returns the status of the EEE capability negotiation on the local sys-
30                 tem.";
31                 reference
32                     "30.12.2.1.29-69 of IEEE Std IEEE Std 802.3-2022";
33                 }
34                 leaf tx-system-fw {
35                     type boolean;
36                     config false;
37                     description
38                         "Returns the value of LPI_FW that the local system can support in the
39                     transmit direction.";
40                     reference
41                         "30.12.2.1.30-70 of IEEE Std IEEE Std 802.3-2022";
42                     }
43                     leaf tx-system-fw-echo {
44                         type boolean;
45                         config false;
46                         description
47                             "Returns the value of LPI_FW that the remote system is advertising that
48                         it can support in the transmit direction and is echoed by the local system under
49                         the control of the EEE DLL receiver state diagram.";
50                         reference
51                             "30.12.2.1.31-71 of IEEE Std IEEE Std 802.3-2022";
52                         }
53                         leaf rx-system-fw {
54                             type boolean;
55                             config false;
56                             description
57                                 "Returns the value of LPI_FW that the local system is requesting in the
58                             receive direction.";
59                             reference
```

```

1      "30.12.2.1.32-72 of IEEE Std IEEE Std 802.3-2022";
2  }
3  leaf rx-system-fw-echo {
4      type boolean;
5      config false;
6      description
7          "Returns the value of LPI_FW that the remote system is advertising that
8          it is requesting in the receive direction and is echoed by the local system under
9          the control of the IEEE DLL transmitter state diagram.";
10     reference
11         "30.12.2.1.33-73 of IEEE Std IEEE Std 802.3-2022";
12 }
13 leaf preemption-supported {
14     type boolean;
15     config false;
16     description
17         "Indicates whether the given port (associated with the local System) sup-
18         ports the preemption capability.";
19     reference
20         "30.12.2.1.34-74 of IEEE Std IEEE Std 802.3-2022";
21 }
22 leaf preemption-enabled {
23     type boolean;
24     config false;
25     description
26         "Indicates whether the preemption capability is enabled on the given port
27         associated with the local System.";
28     reference
29         "30.12.2.1.35-75 of IEEE Std IEEE Std 802.3-2022";
30 }
31 leaf preemption-active {
32     type boolean;
33     config false;
34     description
35         "Indicates whether the preemption capability is active on the given port
36         associated with the local System.";
37     reference
38         "30.12.2.1.36-76 of IEEE Std IEEE Std 802.3-2022";
39 }
40 leaf additional-fragmentfragment-size {
41     type int32;
42     config false;
43     description
44         "Indicate the minimum size of non-final fragments supported by the
45         receiver on the given port associated with the local System. This value is
46         expressed in units of 64 octets of additional fragment length.";
47     reference
48         "30.12.2.1.37-77 of IEEE Std IEEE Std 802.3-2022";
49 }
50 }
51
52 augment "/lldp:lldp/lldp:port/lldp:remote-systems-data" {
53     description "Augments port with 802.3 port config tlvs";
54     leaf auto-negotiation-supported {
55         type boolean;
56         config false;
57         description
58             "True if the port supports Auto-negotiation";
59         reference

```

```
1      "30.12.3.1.1 of IEEE Std IEEE Std 802.3-2022";
2  }
3  leaf auto-negotiation-enabled {
4      type boolean;
5      config false;
6      description
7          "True if Auto-negotiation is enabled";
8      reference
9          "30.12.3.1.2 of IEEE Std IEEE Std 802.3-2022";
10 }
11 leaf auto-negotiation-cap {
12     type binary {
13         length "2";
14     }
15     config false;
16     description
17         "A read-only 2-octet value that contains the value (bitmap) of the ifMau-
18         AutoNegCapAdvertisedBits object (defined in IETF RFC 4836)
19         which is associated with the given port on the local system.";
20     reference
21         "30.12.3.1.3 of IEEE Std IEEE Std 802.3-2022";
22 }
23 leaf operational-mau-type {
24     type int32;
25     config false;
26     description
27         "32-bit integer value that indicates the operational MAU type of the given
28         port";
29     reference
30         "30.12.3.1.4 of IEEE Std IEEE Std 802.3-2022";
31 }
32 leaf power-port-class {
33     type port-class-type;
34     config false;
35     description
36         "A read-only value that identifies the port Class of the given port";
37     reference
38         "30.12.3.1.5 of IEEE Std IEEE Std 802.3-2022";
39 }
40 leaf mdi-power-supported {
41     type boolean;
42     config false;
43     description
44         "True if MDI power is supported";
45     reference
46         "30.12.3.1.6 of IEEE Std IEEE Std 802.3-2022";
47 }
48 leaf mdi-power-enabled {
49     type boolean;
50     config false;
51     description
52         "True if MDI power is enabled";
53     reference
54         "30.12.3.1.7 of IEEE Std IEEE Std 802.3-2022";
55 }
56 leaf power-pair-controlable {
57     type boolean;
58     config false;
59     description
```

```
1         "True if the pair selection can be controlled";
2     reference
3         "30.12.3.1.8 of IEEE Std IEEE Std 802.3-2022";
4 }
5 leaf power-pairs {
6     type pse-pinout-type;
7     config false;
8     description
9         "Indicates which pinout alternative is used for PD detection and power";
10    reference
11        "30.12.3.1.9 of IEEE Std IEEE Std 802.3-2022";
12 }
13 leaf power-class {
14     type pse-power-class-type;
15     config false;
16     description
17         "PD Power Class";
18     reference
19         "30.12.3.1.10 of IEEE Std IEEE Std 802.3-2022";
20 }
21 leaf link-aggregation-status {
22     type bits {
23         bit aggregation-capability {
24             position 0;
25             description
26                 "79.3.3.1 of IEEE Std 802.3-2022";
27         }
28         bit aggregation-status {
29             position 1;
30             description
31                 "79.3.3.1 of IEEE Std 802.3-2022";
32         }
33         bit bit2-reserved {
34             position 2;
35             description
36                 "79.3.3.1 of IEEE Std 802.3-2022";
37         }
38         bit bit3-reserved {
39             position 3;
40             description
41                 "79.3.3.1 of IEEE Std 802.3-2022";
42         }
43         bit bit4-reserved {
44             position 4;
45             description
46                 "79.3.3.1 of IEEE Std 802.3-2022";
47         }
48         bit bit5-reserved {
49             position 5;
50             description
51                 "79.3.3.1 of IEEE Std 802.3-2022";
52         }
53         bit bit6-reserved {
54             position 6;
55             description
56                 "79.3.3.1 of IEEE Std 802.3-2022";
57         }
58         bit bit7-reserved {
59             position 7;
```



```

1      description
2          "79.3.3.1 of IEEE Std 802.3-2022";
3      }
4  }
5  config false;
6  description
7      "The bitmap value which contains the link aggregation capabilities and
8  the current aggregation
9      status of the link";
10     reference
11         "30.12.3.1.11 of IEEE Std 802.3-2022";
12     }
13     leaf aggregation-port-id {
14         type int32;
15         config false;
16         description
17             "The unique identifier allocated to this Aggregation Port by the local
18 System.";
19         reference
20             "30.12.3.1.12 of IEEE Std IEEE Std 802.3-2022";
21     }
22     leaf local-max-frame-size {
23         type int32;
24         config false;
25         description
26             "An integer value indicating the maximum supported frame size in octets
27 on the given port of the local system.";
28         reference
29             "30.12.3.1.13 of IEEE Std IEEE Std 802.3-2022";
30     }
31     leaf power-type {
32         type bits {
33             bit type1-or-type2-greater {
34                 position 0;
35                 description
36                     "0-type1, 1-type2greater than type1";
37             }
38             bit pse-or-pd {
39                 position 1;
40                 description
41                     "0-pse, 1-pd";
42             }
43         }
44         config false;
45         description
46             ""A GET attribute that returns a bit string indicating whether the local
47 system is a PSE or a PD and
48 "A bit string indicating whether the local system is a PSE or a
49 PD and whether it is Type 1 or greater than Type 21. The first bit indicates
50 Type 1 or greater than Type 2-1.
51 The second bit indicates PSE or PD. A PSE sets this bit to indicate
52 a PSE. A PD sets this bit to
53 indicate a PD. See also aLldpXdot3LocPowerTypeExt..";
54         reference
55             "30.12.3.1.14 of IEEE Std 802.3-2022";
56     }
57     leaf power-source {
58         type power-source-type;
59         config false;

```

```

    description
    "Indicates the power sources of the remote system. A PSE indicates whether
    it is being powered by a primary power source; a backup power source; or unknown.
    A PD indicates whether it is being powered by a PSE and locally; by a PSE only;
    or
        unknown.";
    reference
    "30.12.3.1.15 of IEEE Std 802.3-2022";
}
leaf power-priority {
    type power-priority-type;
    description
    "the priority of the PD system received from the remote system";
    reference
    "30.12.3.1.16 of IEEE Std IEEE Std 802.3-2022";
}
leaf pd-requested-power-value {
    type int32;
    config false;
    description
    "PD requested power value that was used by the remote system to compute
    the power value that is has currently allocated to the PD.";
    reference
    "30.12.3.1.17 of IEEE Std IEEE Std 802.3-2022";
}
leaf pd-requested-power-value-a {
    type int32;
    config false;
    description
    "A GET attribute that returns the PD requested power value for the Mode A
    pairset that was used
        by the remote system to compute the power value that it has cur-
        rently allocated to the PD. For a
            PSE, it is the PD requested power value for the Alternative A pair-
            set received from the remote
            system. For a PD, it is the PD requested power value for the Alter-
            native A pairset that the PSE
            echoes back to the remote system. The definition and encoding of PD
            requested power value for
            the Mode A pairset is the same as described in aLldpXdot3LocPDRe-
            questedPowerValueA";
    reference
    "30.12.3.1.18 of IEEE Std IEEE Std 802.3-2022";
}
leaf pd-requested-power-value-b {
    type int32;
    The second bit indicates PSE or PD. config false;
    description
    "A GET attribute that returns the PD requested power value for the Mode B
    pairset that was used
        by the remote system to compute the power value that it has cur-
        rently allocated to the PD. For a
            PSE, it is the PD requested power value for the Alternative B pair-
            set received from the remote
            system. For a PD, it is the PD requested power value for the Alter-
            native B pairset that the PSE
            echoes back to the remote system. The definition and encoding of PD
            requested power value for

```

```

1      the Mode B pairset is the same as described in aLldpXdot3LocPDRe-
2      requestedPowerValueB ";
3      reference
4      "30.12.3.1.14-19 of IEEE Std IEEE Std 802.3-2022";
5  }
6  leaf pse-allocated-power-value {
7      leaf power-source {type int32;
8      type power-source-type config false;
9      config false; description
10     "PSE allocated power value. For a PSE, it is the power value that the PSE
11     has currently allocated to the remote system.
12     For a PD, it is the power value that the PD mirrors back to the
13     remote system";
14     description reference
15     "Indicates the power sources of the remote system. A PSE indi-
16     cates whether it is being powered by a primary power source; a backup
17     power source; or unknown. A PD indicates whether it is being powered by a
18     PSE and locally; by a PSE only; or
19     "30.12.3.1.20 of IEEE Std IEEE Std 802.3-2022";
20 }
21 leaf pse-allocated-power-value-a {
22     type int32;
23     config false;
24     description
25     "A GET attribute that returns the PSE allocated power value for the Alter-
26     native A pairset received
27     from the remote system. For a PSE, it is the PSE allocated power
28     value for the Alternative A pairset
29     that was echoed back by the remote PD. For a PD, it is the PSE allo-
30     cated power value for the
31     Mode A pairset received from the remote system. The definition and
32     encoding of PSE allocated
33     power value for the Alternative A pairset is the same as described
34     in
35     aLldpXdot3LocPSEAllocatedPowerValueA";
36     reference
37     "30.12.3.1.21 of IEEE Std IEEE Std 802.3-2022";
38 }
39 leaf pse-allocated-power-value-b {
40     type int32;
41     config false;
42     description
43     "A GET attribute that returns the PSE allocated power value for the Alter-
44     native B pairset received
45     from the remote system. For a PSE, it is the PSE allocated power
46     value for the Alternative B pairset
47     that was echoed back by the remote PD. For a PD, it is the PSE allo-
48     cated power value for the
49     Mode B pairset received from the remote system. The definition and
50     encoding of PSE allocated
51     power value for the Alternative B pairset is the same as described
52     in
53     aLldpXdot3LocPSEAllocatedPowerValueB";
54     reference
55     "30.12.3.1.22 of IEEE Std IEEE Std 802.3-2022";
56 }
57 leaf pse-powering-status {
58     type powering-status-type;

```

```
1      config false;
2      description
3          " A read only value that indicates the powering status of the remote PSE.
4      For a PD, the contents of this
5          attribute are undefined.";
6      reference
7          "30.12.3.1.23 of IEEE Std IEEE Std 802.3-2022";
8      }
9
10     leaf pd-powered-status {
11         type powered-status-type;
12         config false;
13         description
14             " A read only value that indicates the powering status of the PD. For a
15         PSE, the contents of this attribute are undefined";
16         reference
17             "30.12.3.1.24 of IEEE Std IEEE Std 802.3-2022";
18     }
19
20     leaf power-pairs-ext {
21         type power-pairs-type;
22         config false;
23         description
24             " A read-only value that identifies the supported PSE Pinout Alternative
25         specified in 145.2.4. For a
26         PD, this attribute contains the value of the aPSEPowerPairs attri-
27         bute (see 30.9.1.1.4). For a PSE,
28             the contents of this attribute are undefined";
29         reference
30             "30.12.3.1.25 of IEEE Std IEEE Std 802.3-2022";
31     }
32
33     leaf power-class-ext-A {
34         type power-class-ext-AB-type;
35         config false;
36         description
37             "For a dual-signature PD, a read-only value that indicates the currently
38         assigned Class for Mode A
39             by the remote 4-pair PSE. For a single-signature PD or a dual-sig-
40         nature PD connected to a 2-pair
41             only PSE, a read-only value set to 'singlesig' by the remote PSE.
42         For a PSE connected to a dual-
43             signature PD, a read-only value that indicates the requested Class
44         for Mode A during Physical
45             Layer classification (see 145.2.8) by the remote PD. For a PSE con-
46         nected to a single-signature PD,
47             a read-only value set to 'singlesig' by the remote PD";
48         reference
49             "30.12.3.1.26 of IEEE Std IEEE Std 802.3-2022";
50     }
51
52     leaf power-class-ext-B {
53         type power-class-ext-AB-type;
54         config false;
55         description
56             "For a dual-signature PD, a read-only value that indicates the currently
57         assigned Class for Mode B
58             by the remote 4-pair PSE. For a single-signature PD or a dual-sig-
59         nature PD connected to a 2-pair
60             only PSE, a read-only value set to 'singlesig' by the remote PSE.
61         For a PSE connected to a dual-
62             signature PD, a read-only value that indicates the requested Class
63         for Mode B during Physical
64             Layer classification (see 145.2.8) by the remote PD. For a PSE con-
65         nected to a single-signature PD,
66             a read-only value set to 'singlesig' by the remote PD";
67         reference
68             "30.12.3.1.27 of IEEE Std IEEE Std 802.3-2022";
69     }
```

```

1      Layer classification (see 145.2.8) by the remote PD. For a PSE con-
2      nected to a single-signature PD,
3      a read-only value set to 'singlesig' by the remote PD";
4      reference
5      "30.12.3.1.27 of IEEE Std IEEE Std 802.3-2022";
6      }
7      leaf power-class-ext {
8      type power-class-ext-type;
9      config false;
10     description
11     "For a single-signature PD or a dual-signature PD connected to a 2-pair
12     only PSE, a read-only value
13     that indicates the currently assigned Class by the remote PSE. For
14     a dual-signature PD connected
15     to a 4-pair capable PSE, a read-only value set to 'dualsig' by the
16     remote PSE. For a PSE connected
17     to a single-signature PD, a read-only value that indicates the
18     requested Class during Physical Layer
19     classification (see 145.2.8) by the remote PD. For a PSE connected
20     to a dual-signature PD, a read-
21     only value set to 'dualsig' by the remote PD.";
22     reference
23     "30.12.3.1.28 of IEEE Std IEEE Std 802.3-2022";
24     }
25     leaf power-type-ext {
26     type power-type;
27     config false;
28     description
29     "A read-only attribute that returns a value to indicate if the remote sys-
30     tem is a Type 3 or Type 4 PSE
31     or PD and, in the case of a Type 3 or Type 4 PD, if it is a single-
32     signature PD or dual-signature PD.";
33     reference
34     "30.12.3.1.29 of IEEE Std IEEE Std 802.3-2022";
35     }
36     leaf pd-load {
37     type boolean;
38     unknown-; config false;
39     reference description
40     "For a PSE, a GET attribute that returns whether the load of the remote
41     dual-signature PD is
42     electrically isolated, as defined in 79.3.2.10.2. For a PD, this
43     attribute is set to FALSE.";
44     reference
45     "30.12.3.1.15-30 of IEEE Std IEEE Std 802.3-2022";
46     }
47     leaf pd-4pid {
48     leaf power-priority {type boolean;
49     type power-priority-type config false;
50     description
51     "A read-only Boolean attribute indicating whether the priority of the
52     remote PD system received from the remote system; supports powering of both
53     PD Modes.";
54     reference
55     "30.12.3.1.16-31 of IEEE Std IEEE Std 802.3-2022";
56     }
57     leaf pdpse-requestedmax-poweravail-value-power {
58     type int32;
59     config false;
60

```

```

1      description
2          "PD requested power value. A GET attribute that was used by returns
3          the remote system to compute the PSE maximum available power value that is
4          has currently allocated to the PD in units of 0.1 W";
5      reference
6          "30.12.3.1.17-32 of IEEE Std IEEE Std 802.3-2022";
7
8  }
9
10     leaf pse-allocated autoclass-power-value-support {
11         type int32 boolean;
12         config false;
13         description
14             "PSE allocated power value. For a PSE, it is Indicates whether the
15             power value that the remote PSE has currently allocated to the remote sys-
16             tem system supports Autoclass.";
17         reference
18             "30.12.3.1.33 of IEEE Std IEEE Std 802.3-2022";
19     }
20     leaf autoclass-completed {
21         type boolean;
22         config false;
23         description
24             "Indicates whether the remote PSE system has completed the Autoclass mea-
25             surement.";
26         reference
27             "30.12.3.1.34 of IEEE Std IEEE Std 802.3-2022";
28     }
29     leaf autoclass-request {
30         type boolean;
31         config false;
32         description
33             "A read-only Boolean attribute indicating whether the remote PD system is
34             requesting an Autoclass measurement.";
35         reference
36             "30.12.3.1.35 of IEEE Std IEEE Std 802.3-2022";
37     }
38     leaf power-down-request {
39         type int32;
40         description
41             "A SET attribute that indicates the remote PD system is requesting a power
42             down when the value is 0x1D.";
43         reference
44             "30.12.3.1.36 of IEEE Std IEEE Std 802.3-2022";
45     }
46     leaf power-down-time {
47         type int32;
48         description
49             "A GET attribute that indicates the number of seconds the remote PD
50             requests to stay powered off.
51             A value of zero indicates an indefinite amount of time";
52         reference
53             "30.12.3.1.37 of IEEE Std IEEE Std 802.3-2022";
54     }
55     leaf meas-voltage-support {
56         type boolean;
57         config false;
58         description
59             "A GET attribute that indicates the remote device is capable of providing
60             a voltage measurement.";
61         reference

```

```
1      "30.12.3.1.38 of IEEE Std IEEE Std 802.3-2022";
2  }
3      leaf meas-current-support {
4          type boolean;
5          config false;
6          description
7              "A GET attribute that indicates the remote device is capable of providing
8              a current measurement.;";
9          reference
10             "30.12.3.1.39 of IEEE Std IEEE Std 802.3-2022";
11     }
12     leaf meas-power-support {
13         type boolean;
14         config false;
15         description
16             "A GET attribute that indicates the remote device is capable of providing
17             a power measurement.;";
18         reference
19             "30.12.3.1.40 of IEEE Std IEEE Std 802.3-2022";
20     }
21     leaf meas-energy-support {
22         type boolean;
23         config false;
24         description
25             "A GET attribute that indicates the remote device is capable of providing
26             a energy measurement.;";
27         reference
28             "30.12.3.1.41 of IEEE Std IEEE Std 802.3-2022";
29     }
30     leaf measurement-source {
31         type bits {
32             bit bit1 {
33                 position 0;
34                 description
35                     "-";
36             }
37             bit bit2 {
38                 position 1;
39                 description
40                     "-";
41             }
42         }
43         description
44             For a PD, it is the power "A SET attribute value that indi-
45             cates on which Alternative or Mode the PD mirrors back to measurement was taken
46             by the remote syte device.";
47         reference
48             "30.12.3.1.42 of IEEE Std 802.3-2022";
49     }
50     leaf meas-voltage-request {
51         type boolean;
52         config false;
53         description
54             "A GET attribute that indicates the rmote device is requesting a voltage
55             measurement from the local device.;";
56         reference
57             "30.12.3.1.43 of IEEE Std IEEE Std 802.3-2022";
58     }
59     leaf meas-current-request {
```

```
1  type boolean;
2  config false;
3  description
4  "A GET attribute that indicates the remote device is requesting a current
5  measurement from the local device.>";
6  reference
7  "30.12.3.1.44 of IEEE Std IEEE Std 802.3-2022";
8  }
9
10 leaf meas-power-request {
11   type boolean;
12   config false;
13   description
14   "A GET attribute that indicates the remote device is requesting a power
15   measurement from the local device.>";
16   reference
17   "30.12.3.1.45 of IEEE Std IEEE Std 802.3-2022";
18 }
19
20 leaf meas-energy-request {
21   type boolean;
22   config false;
23   description
24   "A GET attribute that indicates the remote device is requesting an energy
25   measurement from the local device.>";
26   reference
27   "30.12.3.1.46 of IEEE Std IEEE Std 802.3-2022";
28 }
29
30 leaf meas-voltage-valid {
31   type boolean;
32   config false;
33   description
34   "A GET attribute that indicates the remote device's voltage measurement
35   is valid.>";
36   reference
37   "30.12.3.1.47 of IEEE Std IEEE Std 802.3-2022";
38 }
39
40 leaf meas-current-valid {
41   type boolean;
42   config false;
43   description
44   "A GET attribute that indicates the remote device's current measurement
45   is valid.>";
46   reference
47   "30.12.3.1.48 of IEEE Std IEEE Std 802.3-2022";
48 }
49
50 leaf meas-power-valid {
51   type boolean;
52   config false;
53   description
54   "A GET attribute that indicates the remote device's power measurement is
55   valid.>";
56   reference
57   "30.12.3.1.49 of IEEE Std IEEE Std 802.3-2022";
58 }
59
60 leaf meas-energy-valid {
61   type boolean;
62   config false;
63   description
64   "A GET attribute that indicates the remote device's energy measurement is
65   valid.>";
```



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```

1      "A GET attribute that returns the measured remote device power.";
2      reference
3      "30.12.3.1.57 of IEEE Std IEEE Std 802.3-2022";
4  }
5  leaf energy-measurement {
6      type int32;
7      config false;
8      description
9      "A GET attribute that returns the measured remote device energy.";
10     reference
11     "30.12.3.1.58 of IEEE Std IEEE Std 802.3-2022";
12 }
13 leaf pse-power-price-index {
14     type int32;
15     config false;
16     description
17     "A GET attribute that returns an index of the price of power being sourced
18 by the remote PSE. For a PSE, this value is undefined.";
19     reference
20     "30.12.3.1.18-59 of IEEE Std IEEE Std 802.3-2022";
21 }
22 leaf tx-system-value {
23     type int32;
24     config false;
25     description
26     "Returns the value of Tw_sys_tx that the remote system can support in the
27 transmit direction.";
28     reference
29     "30.12.3.1.19-60 of IEEE Std IEEE Std 802.3-2022";
30 }
31 leaf tx-system-value-echo {
32     type int32;
33     config false;
34     description
35     "Returns the value of Tw_sys_tx that the local system is advertising that
36 it can support in the transmit direction and is echoed by the local system under
37 the control of the EEE DLL receiver state diagram.";
38     reference
39     "30.12.3.1.20-61 of IEEE Std IEEE Std 802.3-2022";
40 }
41 leaf rx-system-value {
42     type int32;
43     config false;
44     description
45     "Returns the value of Tw_sys_tx that the remote system is requesting in
46 the receive direction.";
47     reference
48     "30.12.3.1.21-62 of IEEE Std IEEE Std 802.3-2022";
49 }
50 leaf rx-system-value-echo {
51     type int32;
52     config false;
53     description
54     "Returns the value of Tw_sys_tx that the local system is advertising that
55 it is requesting in the receive direction and is echoed by the local system under
56 the control of the EEE DLL transmitter state diagram.";
57     reference
58     "30.12.3.1.22-63 of IEEE Std IEEE Std 802.3-2022";
59 }
60 }
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```

```
1     leaf fallback-system-value {
2         type int32;
3         config false;
4         description
5             "Returns the value of the fallback Tw_sys_tx that the remote system is
6 advertising to the remote system.";
7         reference
8             "30.12.3.1.23-64 of IEEE Std IEEE Std 802.3-2022";
9     }
10
11     leaf tx-system-fw {
12         type boolean;
13         config false;
14         description
15             "Returns the value of LPI_FW that the remote system can support in the
16 transmit direction.";
17         reference
18             "30.12.3.1.24-65 of IEEE Std IEEE Std 802.3-2022";
19     }
20
21     leaf tx-system-fw-echo {
22         type boolean;
23         config false;
24         description
25             "Returns the value of LPI_FW that the local system is advertising that it
26 can support in the transmit direction and is echoed by the local system under the
27 control of the EEE DLL receiver state diagram.";
28         reference
29             "30.12.3.1.25-66 of IEEE Std IEEE Std 802.3-2022";
30     }
31
32     leaf rx-system-fw {
33         type boolean;
34         config false;
35         description
36             "Returns the value of LPI_FW that the remote system is requesting in the
37 receive direction.";
38         reference
39             "30.12.3.1.26-67 of IEEE Std IEEE Std 802.3-2022";
40     }
41
42     leaf rx-system-fw-echo {
43         type boolean;
44         config false;
45         description
46             "Returns the value of LPI_FW that the local system is advertising that it
47 is requesting in the receive direction and is echoed by the local system under
48 the control of the EEE DLL transmitter state diagram.";
49         reference
50             "30.12.3.1.27-68 of IEEE Std IEEE Std 802.3-2022";
51     }
52
53     leaf preemption-supported {
54         type boolean;
55         config false;
56         description
57             "Indicates whether the given port (associated with the remote System)
58 supports the preemption capability.";
59         reference
60             "30.12.3.1.28-69 of IEEE Std IEEE Std 802.3-2022";
61     }
62
63     leaf preemption-enabled {
64         type boolean;
65         config false;
```

```
1      description
2          "Indicates whether the preemption capability is enabled on the given port
3 associated with the remote System.";
4      reference
5          "30.12.3.1.29-70 of IEEE Std IEEE Std 802.3-2022";
6      }
7      leaf preemption-active {
8          type boolean;
9          config false;
10         description
11             "Indicates whether the preemption capability is active on the given port
12 associated with the remote System.";
13         reference
14             "30.12.3.1.30-72 of IEEE Std IEEE Std 802.3-2022";
15         }
16         leaf additional-fragment-size {
17             type int32;
18             config false;
19             description
20                 "Indicate the minimum size of non-final fragments supported by the
21 receiver on the given port associated with the remote System. This value is
22 expressed in units of 64 octets of additional fragment length.";
23             reference
24                 "30.12.3.1.31-72 of IEEE Std IEEE Std 802.3-2022";
25             }
26         }
27     }
28 }
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