IEEE 802.3da SPMD TF:
LLDP baseline text proposal

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clause 30 changes

Modified

oPLCA managed object class (30.16.1)			
aPLCAAdminState	ATTRIBUTE	GET	PLCA capability (optional)
aPLCAStatus	ATTRIBUTE	GET	X
aPLCABurstTimer	ATTRIBUTE	GET-SET	X
aPLCALocalNodeID	ATTRIBUTE	GET-SET	X
aPLCAMaxBurstCount	ATTRIBUTE	GET-SET	X
aPLCANodeCount	ATTRIBUTE	GET-SET	X
aPLCATransmitOpportunityTimer	ATTRIBUTE	GET-SET	X
acPLCAAdminControl	ACTION	GET-SET	X
acPLCAReset	ACTION	GET-SET	X
aDPLCASoftAgingCycles	ATTRIBUTE	GET-SET	X
aDPLCAHardAgingCyclesStatus	ATTRIBUTE	GET-SET	X
aDPLCACoordinatorRoleAllowed	ATTRIBUTE	GET-SET	X
aDPLCAWaitBeaconTimer	ATTRIBUTE	GET-SET	X
aDPLCAAdminState	ATTRIBUTE	GET	X
acDPLCAAdminControl	ACTION		X
aPLCSupported	***ATTRIBUTE***	***GET***	***X***
aDPLCSupported	***ATTRIBUTE***	***GET***	***X***

Table 30–11—PLCA capabilities

30.16.1.1.3 aPLCANodeCount
ATTRIBUTE
APPROPRIATE SYNTAX:
INTEGER
BEHAVIOUR DEFINED AS:
This value is assigned to define the number of nodes getting a transmit opportunity before a new BEACON is generated. Valid range is 0 to 255, inclusive. The default value is 8.; ***This parameter maps to the local_nodeID variable in 148.4.4.2[1][2].;***

30.16.1.1.4 aPLCALocalNodeID
ATTRIBUTE
APPROPRIATE SYNTAX:
INTEGER
BEHAVIOUR DEFINED AS:
This value is assigned to define the ID of the local node on the PLCA network. The default value is 255. Value range is 0 to 255, inclusive. ***This parameter maps to the plca_node_count variable in 148.4.4.2..;***

Added

30.16.1.1.x aPLCSupported
ATTRIBUTE
APPROPRIATE SYNTAX:
An ENUMERATED VALUE that has the following entries:
TRUE
FALSE
BEHAVIOUR DEFINED AS:
A read-only value that indicates whether PLCA is supported by this station.

[1] Note – all cross references are to 802.3-2022 as amended by 8023da_D0p7.pdf
[2] Added/modified text is marked in ***yellow bold italics***.

30.16.1.1.x aDPLCSupported

ATTRIBUTE

APPROPRIATE SYNTAX:

An ENUMERATED VALUE that has the following entries:

TRUE

FALSE

BEHAVIOUR DEFINED AS:

A read-only value that indicates whether D-PLCA is supported by this station.

clause 79 changes

Modified

Table 79–1—IEEE 802.3 Organizationally Specific TLVs

IEEE 802.3 subtype	TLV name	Subclause reference
1	MAC/PHY Configuration/Status	79.3.1
2	Power Via Medium Dependent Interface (MDI)	79.3.2
3	Link Aggregation (deprecated)	79.3.3
4	Maximum Frame Size	79.3.4
5	Energy-Efficient Ethernet	79.3.5
6	EEE fast wake	79.3.6
7	Additional Ethernet Capabilities	79.3.7
8	Power Via MDI Measurements	79.3.8
<PLCA subtype>	***PLCA***	***79.3.TBD***
< PLCA subtype +1>-255	***Reserved***	

Added

79.3.<PLCA subtype> PLCA TLV

The PLCA TLV is an optional TLV that indicates capabilities and status of Clause 148 PLCA.

Figure 79–? shows the format of this TLV.

TLV type = 127	TLV information string string length = 9	802.3 OUI 00-12-0F	802.3 subtype = <PLCA subtype>	PLCA support/ status	PLCA nodeId
7 bits	9 bits	3 octets	1 octet	2 octets	one octet
TLV Header		TLV information string			

Figure 79–? PLCA TLV format

79.3. <PLCA subtype>.1 PLCA support/status

The PLCA support/status field shall contain a bitmap that identifies the PLCA and DPLCA support and status of the local IEEE 802.3 LAN station as defined in Table 79–? PLCA TLV Contents.

Table 79-? PLCA support/status

Field	Length (Octets)	Format	Field definitions	Value/Values	Notes
PLCA support/status	2	Bitmap	Bit 0 – PLCA Supported	1 = supported 0 = not supported	30.16.1.1.x aPLCSupported
			Bit 1 – PLCA status	1 = enabled 0 = not enabled	30.16.1.1.1 aPLCAAdminState
			Bit 2 – D-PLCA Supported	1 = supported 0 = not supported	30.16.1.1.x aDPLCSupported
			Bit 3 – D-PLCA status	1 = enabled 0 = not enabled	30.16.1.1.11 aDPLCAAdminState
			Bits 4-15	Reserved	
PLCA nodeId	1	Unsigned Integer	0-255	0-255	30.16.1.1.4 aPLCALocalNodeID

79.3. <PLCA subtype>.2 PLCA nodeId

The PLCA nodeId field contains an integer value indicating the PLCA nodeId of the local IEEE 802.3 LAN.

79.3. <PLCA subtype>.3 PLCA TLV usage rules

An LLDPDU should contain no more than one PLCA TLV. Since this TLV is intended to inform a link partner of capabilities, the PLCA TLV should be sent in an LLDPDU addressed to the Nearest Bridge group address (see IEEE Std 802.1Q). If PLCA is not enable, this field reports 255.

BACKUP Material

Misc. Notes

“support” flags in LLDP and clause 30

TLDR – most don’t have underlying definitions. If the definition exists, they have no effect in the state machine (e.g., set to true in the init state, and not used elsewhere.)

Auto-negotiation support

No clause 30 definition

Table 79–2—IEEE 802.3 auto-negotiation support/status

Bit	Function	Value/meaning	IETF RFC 4836 reference
0	Auto-negotiation support	1 = supported 0 = not supported	ifMauAutoNegSupported
1	Auto-negotiation status	1 = enabled 0 = not enabled	ifMauAutoNegAdminStatus
7:2	—	Reserved for future standardization	—

ifMauAutoNegSupportedm is defined in RFC 4336 as follows which no reference to any 802.3 clause or managed object

```
ifMauAutoNegSupported OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION "This object indicates whether or not
                auto-negotiation is supported on this MAU."
    ::= { ifMauEntry 12 }
```

PSE MDI power support

No underlying variable clause 33 variable

Table 79–4—MDI power support field

Bit	Function	Value/meaning
7:4	Reserved for future standardization	—
3	PSE pairs control ability	1 = pair selection can be controlled 0 = pair selection can not be controlled
2	PSE MDI power state	1 = enabled 0 = disabled
1	PSE MDI power support	1 = supported 0 = not supported
0	Port class	1 = PSE 0 = PD

79.3.2.1.2 PSE MDI power support

The ‘PSE MDI power support’ field transmitted by a PSE shall indicate if MDI power is supported. The value of the ‘PSE MDI power support’ field transmitted by a PD is undefined.

Table 79–24—IEEE 802.3 Organizationally Specific TLV/LLDP Local System Group managed object class cross references

PSE MDI power support aLldpXdot3LocPowerMDISupported

30.12.2.1.6 aLldpXdot3LocPowerMDISupported

ATTRIBUTE

APPROPRIATE SYNTAX:

BOOLEAN

BEHAVIOUR DEFINED AS:

For a PSE, this attribute contains a read-only Boolean value used to indicate whether the MDI power is supported on the given port associated with the local system. For a PD, the value of this attribute is undefined.;

PD 4PID

Does map to state machine variable that is set to true in the INITIALIZE state and not

Table 79–7—Power type/source/priority field

Bit	Function	Value/meaning
7:6	Power type	7 6 1 1 = Type 1 PD 1 0 = Type 1 PSE 0 1 = Type 2 PD 0 0 = Type 2 PSE
5:4	Power source	Where Power type = PD 5 4 1 1 = PSE and local 1 0 = Reserved 0 1 = PSE 0 0 = Unknown Where Power type = PSE 5 4 1 1 = Reserved 1 0 = Backup source 0 1 = Primary power source 0 0 = Unknown
3	Reserved	Transmit as zero, ignore on receive
2	PD 4PID	1 = PD supports powering of both Modes simultaneously 0 = PD does not support powering of both Modes simultaneously
1:0	Power priority	1 0 1 1 = low 1 0 = high 0 1 = critical 0 0 = unknown (default)

79.3.2.4.3 PD 4PID

This field shall be set according to Table 79–7 when the Power type is PD to indicate whether the PD supports powering of both Modes simultaneously. This field shall be set to ‘0’ when the Power type is PSE.

Table 79–24—IEEE 802.3 Organizationally Specific TLV/LLDP Local System Group managed object class cross references

Power Type ext	aLldpXdot3LocPowerTypeExt
PD 4PID	aLldpXdot3LocPD4PID
PD Load	aLldpXdot3LocPDLoad

30.12.2.1.31 aLldpXdot3LocPD4PID

ATTRIBUTE

APPROPRIATE SYNTAX:

BOOLEAN

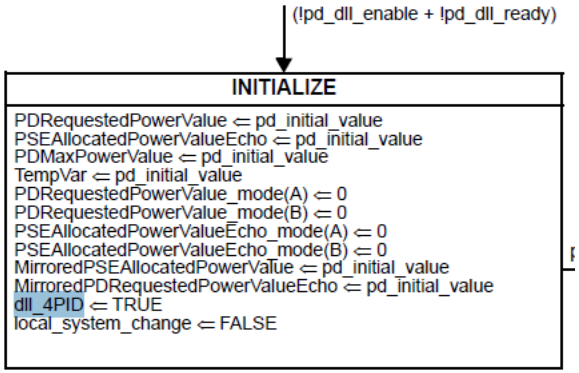
BEHAVIOUR DEFINED AS:

A read-only Boolean attribute indicating whether the local PD system supports powering of both PD Modes.;

Table 145–39—Attribute to state diagram variable cross reference for single-signature PDs

Attribute	Mapping	State diagram variable
oLldpXdot3LocSystemsGroup Object Class		
aLldpXdot3LocPDRequestedPowerValue	⇐	PDRequestedPowerValue
aLldpXdot3LocPSEAllocatedPowerValue	⇐	PSEAllocatedPowerValueEcho
aLldpXdot3LocReady	⇐	pd_dll_ready
aLldpXdot3LocPD4PID	⇐	dll_4PID
aLldpXdot3LocAutoclassRequest	⇐	PDAutoclassRequest
oLldpXdot3RemSystemsGroup Object Class		
aLldpXdot3RemPSEAllocatedPowerValue	⇒	MirroredPSEAllocatedPowerValue
aLldpXdot3RemPDRequestedPowerValue	⇒	MirroredPDRequestedPowerValueEcho
aLldpXdot3RemPSEAutoclassSupport	⇒	MirroredPSEAutoclassSupport
aLldpXdot3RemAutoclassCompleted	⇒	MirroredPSEAutoclassCompleted

145.5.3.3.5 State diagrams



145.5.3.4.2 Variables

dll_4PID

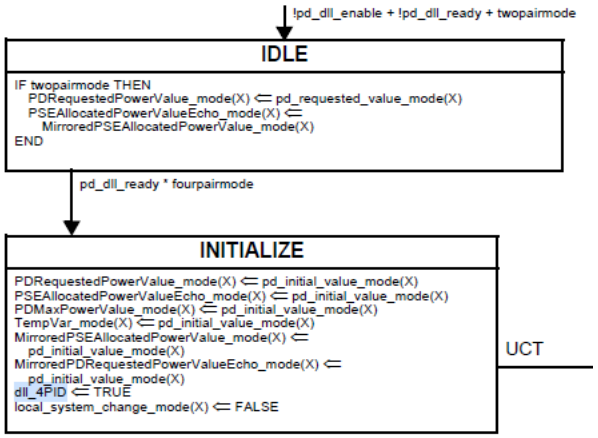
A variable indicating the state of the PD 4PID bit in the ‘Power type/source/priority’ field, as defined in Table 79–7. This variable is updated by the PD state diagram. This variable is mapped into the aLldpXdot3LocPD4PID attribute (30.12.2.1.31).

Values:

FALSE: The PD does not support powering of both Modes simultaneously.

TRUE: The PD supports powering of both Modes simultaneously

145.5.3.4.5 State diagrams



145.5.3.3.1 Variables dll_4PID

A variable indicating the state of the PD 4PID bit in the ‘Power type/source/priority’ field, as defined in Table 79–7. This variable is assigned through Table 145–39.

Values:

FALSE: The PD does not support powering of both Modes simultaneously.

TRUE: The PD supports powering of both Modes simultaneously.

preemption capability support

No underlying variable

Table 79–20—Additional Ethernet capabilities

Bit	Function	Value/meaning	Reference
0	preemption capability support	1 = supported 0 = not supported	99.4.2
1	preemption capability status	1 = enabled 0 = not enabled	99.4.2
2	preemption capability active	1 = active 0 = not active	99.4.3
4:3	additional fragment size	A 2-bit integer value indicating, in units of 64 octets, the minimum number of octets over 64 octets required in non-final fragments by the receiver	99.4.4
15:5	Reserved	—	—

99.4.2 Determining that the link partner supports preemption

The preemption capability is enabled in the transmit direction only if it is determined that the link partner supports the preemption capability.

The process of discovering the support for the preemption capability on the link partner relies on the exchange of the Additional Ethernet Capabilities TLV (see 79.3.7).

The preemption capability shall be enabled only if the link partner announces its support for the preemption capability via an Additional Ethernet Capabilities TLV in an LLDPDU addressed to the Nearest Bridge group address (see IEEE Std 802.1Q). The preemption capability shall be disabled if the MAC Merge sublayer receives indication of link failure.

NOTE—Indication of link failure to the MAC Merge sublayer is implementation dependent.

30.14.1.1 aMACMergeSupport

ATTRIBUTE

APPROPRIATE SYNTAX:

An ENUMERATED VALUE that has one of the following entries:

supported MAC Merge sublayer is supported on the device

not supported MAC Merge sublayer is not supported on the device

BEHAVIOUR DEFINED AS:

This attribute indicates (when accessed via a GET operation) whether the given device supports a MAC Merge sublayer. The SET operation shall have no effect on a device.;