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IEEE Standard for

Local and metropolitan area networks—

Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks—

Amendment 18: Enhanced Transmission Selection for Bandwidth Sharing Between Traffic Classes

IEEE Computer Society

Sponsored by the
LAN/MAN Standards Committee

IEEE
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USA

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IEEE Std 802.1Qaz™-2011
(Amendment to
IEEE Std 802.1Q™-2011
as amended by IEEE 802.1Qbe™-2011,
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Approved 16 June 2011

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Abstract: This amendment to IEEE Std 802.1Q-2011 defines enhancements to transmission selection to support allocation of bandwidth amongst traffic classes, plus a protocol for controlling the application of Data Center Bridging features.
Keywords: Bridged Local Area Networks, Data Center Bridging, Enhanced Transmission Selection, IEEE 802.1Qaz, LANs, local area networks, MAC Bridges, Virtual Bridged Local Area Networks, virtual LANs

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Introduction

This introduction is not part of IEEE Std 802.1Qaz-2011, IEEE Standard for Local and metropolitan area networks—Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks—Amendment 18: Enhanced Transmission Selection for Bandwidth Sharing Between Traffic Classes.

This amendment to IEEE Std 802.1Q-2011 provides enhanced transmission selection capabilities useful to Data Center Bridging Local Area Networks to support bandwidth allocation between different types of application data on a converged link.

This standard contains state-of-the-art material. The area covered by this standard is undergoing evolution. Revisions are anticipated within the next few years to clarify existing material, to correct possible errors, and to incorporate new related material. Information on the current revision state of this and other IEEE 802® standards may be obtained from

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Rakesh Sharma
Kevin B. Stanton
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Michael Teener
Patricia Thaler
Chait Tumuluri
Maarten Vissers

The following members of the individual balloting committee voted on this amendment. Balloters may have voted for approval, disapproval, or abstention.

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Amendment 18: Enhanced Transmission Selection for Bandwidth Sharing Between Traffic Classes

This amendment to IEEE Std 802.1Q™-2011 specifies changes to the forwarding and queueing functions described in IEEE Std 802.1Q. Changes are applied to the base text of IEEE Std 802.1Q-2011 as amended by IEEE Std 802.1Qbe™-2011, IEEE Std 802.1Qbc™-2011, and IEEE Std 802.1Qbb™-2011.

NOTE—The editing instructions contained in this amendment define how to merge the material contained therein into the existing base standard and its amendments to form the comprehensive standard. Text shown in bold italics in this amendment defines the editing instructions necessary to changes to this base text. Three editing instructions are used: ***change***, ***delete***, and ***insert***. ***Change*** is used to make a change to existing material. The editing instruction specifies the location of the change and describes what is being changed. Changes to existing text may be clarified using ~~strikeout~~ markings to indicate removal of old material and underscore markings to indicate addition of new material. ***Delete*** removes existing material. ***Insert*** adds new material without changing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. Editorial notes will not be carried over into future editions of IEEE Std 802.1Q.[1]

[1]Notes in text, tables, and figures are given for information only and do not contain requirements needed to implement the standard.

1. Overview

1.3 Introduction

Insert the following paragraph at the end of 1.3:

This standard specifies protocols, procedures and managed objects for enhancement of transmission selection to support allocation of bandwidth amongst traffic classes. When the offered load in a traffic class doesn't use its allocated bandwidth, enhanced transmission selection will allow other traffic classes to use the available bandwidth. Bandwidth is used by traffic classes subject to enhanced transmission selection when there are no frames to be transmitted for traffic classes subject to strict priority or credit based shaper algorithms. It defines DCBX (Data Center Bridging eXchange protocol) which controls the application of Enhanced Transmission Selection and Priority-based Flow Control.

2. References

Insert the following references into Clause 2 in alphanumeric order:

IEEE Std 802.1Qbb-2011, IEEE Standard for Local and metropolitan area networks—Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks—Amendment 17: Priority-based Flow Control.

3. Definitions

Insert the following definition into Clause 3 in alphabetical order, number it appropriately, and renumber the subsequent definitions accordingly:

3.x Data Center Bridging (DCB): A set of protocols and capabilities for use in a data center environment.

4. Abbreviations

Insert the following abbreviations into Clause 4 in alphabetical order:

DCB	Data Center Bridging
DCBX	DCB eXchange protocol
ETS	Enhanced Transmission Selection
PFC	Priority-based Flow Control

5. Conformance

5.4 VLAN-aware Bridge component requirements

5.4.1 VLAN-aware Bridge component options

Insert the following list items at the end of 5.4.1:

w) Support enhanced transmission selection (ETS) (see 5.4.1.6).
x) Support DCBX (see 5.4.1.7)

5.4.1.5 Forwarding and queuing for time-sensitive streams—requirements

Insert the following subclauses, 5.4.1.6 and 5.4.1.7, after 5.4.1.5:

5.4.1.6 Enhanced Transmission Selection bridge requirements

A device supporting ETS shall:

a) Support at least 3 traffic classes (see 37.3);

NOTE—A minimum of 3 traffic classes allows a minimum configuration such that one traffic class contains priorities with PFC enabled, one traffic class contains priorities with PFC disabled, and one traffic class using strict priority.

b) Support bandwidth configuration with a granularity of 1% or finer (see 37.3);
c) Support bandwidth allocation with a precision of 10% (see 37.3);
d) Support a transmission selection policy such that if one of the traffic classes does not consume its allocated bandwidth, then any unused bandwidth is available to other traffic classes (see 37.3); and
e) Support DCBX (see Clause 38).

5.4.1.7 DCBX bridge requirements

A device supporting DCBX shall:

a) Support LLDP transmit and receive mode (see IEEE Std 802.1AB).
a) Support the DCBX ETS Configuration TLV (see D.2.9).
b) Support the ETS Recommendation TLV (see D.2.10).
c) Support the Priority-based Flow Control Configuration TLV (see D.2.11).
d) Support the Application Priority TLV (see D.2.12).
e) Support the asymmetric and symmetric DCBX state machines (see 38.4).

8. Principles of bridge operation

8.6 The Forwarding Process

8.6.6 Queuing frames

Insert the following note in 8.6.6 after the existing note, and renumber the existing note as NOTE 1:

NOTE 2—A queue in this context is not necessarily a single FIFO data structure. A queue is a record of all frames of a given traffic class awaiting transmission on a given Bridge Port. The structure of this record is not specified. The transmission selection algorithm (8.6.8) determines which traffic class, among those classes with frames available for transmission, provides the next frame for transmission. The method of determining which frame within a traffic class is the next available frame is not specified beyond conforming to the frame ordering requirements of this subclause. This allows a variety of queue structures such as a single FIFO, or a set of FIFOs with one for each pairing of ingress and egress ports (i.e., Virtual Output Queuing), or a set of FIFOs with one for each VLAN or priority, or hierarchical structures.

8.6.8 Transmission selection

Change the second paragraph in 8.6.8 as shown:

The strict priority transmission selection algorithm defined in 8.6.8.1 shall be supported by all Bridges as the default algorithm for selecting frames for transmission. The credit-based shaper transmission selection algorithm defined in 8.6.8.2, and the Enhanced Transmission Selection algorithm defined in 8.6.8.3 may be supported in addition to the strict priority algorithm. Further transmission selection algorithms, selectable by management means, may be supported as an implementation option so long as the requirements of 8.6.6 are met.

Change Table 8-5 as shown:

Table 8-5—Transmission selection algorithm identifiers

Transmission selection algorithm	Identifier
Strict priority (8.6.8.1)	0
Credit-based shaper (8.6.8.2)	1
Enhanced Transmission Selection (8.6.8.3)	2
Reserved for future standardization	3-254~~255~~
Vendor-specific Transmission Selection algorithm value for use with DCBX (D.2.9.8)	255
Vendor-specific	A four-octet integer, where the 3 most significant octets hold an OUI value, and the least significant octet holds an integer value in the range 0–255 assigned by the owner of the OUI.

8.6.8.2 Credit-based shaper algorithm

Insert the following subclause, 8.6.8.3, after 8.6.8.2:

8.6.8.3 Enhanced Transmission Selection algorithm

If ETS is enabled for a traffic class, transmission selection is performed based on the allocation of bandwidth to that traffic class. Bandwidth is distributed amongst ETS traffic classes that support enhanced transmission selection algorithm such that each traffic class is allocated available bandwidth in proportion to its TCBandwidth (see Clause 37).

For a given queue that supports enhanced transmission selection, the algorithm determines that there is a frame available for transmission if the following conditions are all true:

a) The queue contains one or more frames;
b) The ETS algorithm (37.3) determines that a frame should be transmitted from the queue; and
c) There are no frames available for transmission for any queues running Strict priority or Credit based shaper algorithms.

The order in which frames are selected for transmission from the queue shall maintain the ordering requirement specified in 8.6.6.

Insert the following clauses, Clause 37 and Clause 38, after 36.2.2:

37. Enhanced Transmission Selection (ETS)

37.1 Overview

This clause provides definitions and an operational model for priority processing and bandwidth allocation in end stations and bridges in a DCB (Data Center Bridging) environment. Using priority-based processing and bandwidth allocations, different traffic classes with different types of traffic such as LAN, Storage Networking, Clustering, and management can be configured to provide bandwidth allocation, or best effort transmit characteristics.

In order to accomplish this, the following are provided:

a) A set of bandwidth configuration parameters that are used to configure the percentage of bandwidth assigned to each traffic class.
b) A set of characteristics that an ETS enabled transmitter is required to follow.
c) A means of communicating priority-to-traffic class allocations to neighboring systems (DCBX; see Clause 38).

37.1.1 Relationship to other transmission selection algorithms

If ETS is used in conjunction with the strict priority and credit-based shaper algorithms, then attention should be paid to assignment of traffic classes as specified in 34.5.

37.2 ETS configuration parameters

The following ETS configuration parameters exist for each ETS enabled port:

a) *numTrafficClassesSupported*: Indicates the number of traffic classes supported by a port. This value has a minimum of 3 (see 37.3) and a maximum of 8.
b) *TCPriorityAssignment(P)*: For each supported priority, P, the traffic class to which that priority P is assigned (see 37.1.1). A traffic class only operates with the ETS algorithm if it is assigned to do so by the Transmission Selection Algorithm Table (see 8.6.8); i.e., the entry in the table for that traffic class is assigned the value 2 (see Table 8-5).
c) *TCBandwidth(N)*: For each traffic class N, the percentage of the available bandwidth assigned to that traffic class. The total for all traffic classes is equal to 100% (see 37.3).

Configuration of ETS parameters shall be done via DCBX (see Clause 38).

37.3 ETS algorithm

The ETS algorithm provides allocation of bandwidth to traffic classes. The algorithm allows bandwidth intensive and loss sensitive traffic to share the network while allowing coexistence with low latency traffic using the strict priority and credit-based shaper algorithms. Since there are a number of variants of bandwidth sharing algorithms (such as weighted round robin) that provide appropriate bandwidth sharing, a detailed algorithm is not specified. Any algorithm is allowed as long as it meets the specified performance requirements.

NOTE 1—While a traffic class is often referred to as a queue, it is not necessarily a single FIFO data structure. The ETS algorithm is used to determine when an ETS traffic class has a frame available to transmit. The ordering requirements in

8.6.6 are the only constraint of this standard on the order in which frames in a traffic class are transmitted. The determination of which frame in the traffic class to send may be done in an implementation specific manner as long as those ordering requirements are satisfied. For example, an implementation might organize the traffic class as a set of FIFO queues with each FIFO queue containing the frames from a priority, VLAN or a source port. Such FIFO queues might be serviced with strict priority, weighted round robin or other bandwidth distribution algorithm.

For the purposes of the ETS algorithm, Available Bandwidth is defined as the link bandwidth remaining after traffic classes not assigned to Transmission selection algorithm 2, and Vendor Specific (see Table 8-5) are serviced. The effect of Vendor Specific algorithms to Available Bandwidth is outside the scope of this standard.

The ETS algorithm shall provide the ability to configure traffic classes to share bandwidth according to the following:

a) Allow one or more priorities to be assigned to a traffic class;

NOTE 2—All priorities within a traffic class typically share similar traffic handling requirements (e.g., loss and bandwidth).

b) Allow bandwidth to be configured for each traffic class with a granularity of 1%. The configured bandwidth indicates the percentage of Available Bandwidth that can be used by the traffic class when all other traffic classes are consuming their configured bandwidth.
c) For traffic classes for which the transmission selection algorithm is ETS (i.e., Transmission selection algorithm 2 in Table 8-5), select frames for transmission from the traffic class queues such that the bandwidth consumed by the traffic class approaches its percentage of Available Bandwidth. The traffic class consumes less than its percentage of Available Bandwidth when the offered load for that traffic class is less than its percentage of Available Bandwidth, in that case the remainder of its percentage of Available Bandwidth can be used by other traffic classes. A traffic class can consume more than its percentage of Available Bandwidth when the offered load of other traffic classes results in those traffic classes consuming less than their percentage of Available Bandwidth. Allocation of any excess Available Bandwidth is implementation specific.
d) When all traffic classes are offered enough load to consume their share of available bandwidth, and there is no offered load in the traffic classes using transmission selection algorithms other than ETS, the bandwidth received from an ETS traffic class shall deviate from its allocation by no more than 10% of the available bandwidth when measured over a period of 10 000 000 bit times using maximum sized frames during a time period when no PFC frames are received (i.e., no congestion).

NOTE 3—The measurement window is derived from an approximate number of bits in 500 frames (i.e., 500 frames × 2000 bytes per frame × 8 bits per byte rounded up to 10 000 000).

NOTE 4—Allowed deviation of +/-10% allows for variations of traffic (e.g., burstiness) over the specified measurement window and provides balance between precision and implementation flexibility.

e) At least 3 traffic classes shall be supported per port. A minimum of 3 traffic classes allows a minimum configuration such that one ETS traffic class contains priorities which have PFC enabled, one ETS traffic class contains priorities which have PFC disabled, and one traffic class using strict priority.

37.4 Legacy configuration

Subclause 8.6.8 specifies strict priority scheduling as default behavior. This can be achieved by configuring the Transmission selection algorithm value for a traffic class to 0 (see Table 8-5).

Subclause 8.6.6 specifies the default priority to traffic class mapping. There is no change to such mapping when ETS is used.

38. Data Center Bridging eXchange Protocol (DCBX)

38.1 Overview

This clause details the Data Center Bridging Exchange protocol (DCBX) that is used by DCB devices to exchange configuration information with directly connected peers. The protocol may also be used for misconfiguration detection and for configuration of the peer.

This standard describes the base protocol which comprises state machines and TLVs for capability exchange. For each feature that is supported by DCBX, the attributes that are to be exchanged specify:

a) The attributes to be exchanged;
b) How the attributes are used for detecting misconfiguration; and
c) What action needs to be taken when a misconfiguration is detected.

The information listed above is specified for the following:

d) ETS;
e) Priority-based Flow Control (PFC); and
f) Application Priority Configuration TLV.

38.2 Goals

The goals of DCBX are as follows:

a) Discovery of DCB capability in a peer port; for example, it can be used to determine if two link peer ports support PFC.
b) DCB feature misconfiguration detection: DCBX can be used to detect misconfiguration of a feature between the peers on a link. Misconfiguration detection is feature-specific because some features allow asymmetric configuration.
c) Peer configuration of DCB features: DCBX can be used by a device to perform configuration of DCB features in its peer port if the peer port is willing to accept configuration.

38.3 Types of DCBX attributes

Three types of DCBX attributes are exchanged:

a) Informational attributes (see 38.3.1);
a) Asymmetric attributes (see 38.4.1); and
b) Symmetric attributes (see 38.4.2).

38.3.1 Informational attributes

Informational attributes are exchanged via LLDP without any participation in a DCBX state machine.

38.4 DCBX and LLDP

DCBX uses Link Layer Discovery Protocol (LLDP) (see IEEE Std 802.1AB) to exchange attributes between two link peers. LLDP is a unidirectional protocol. It advertises connectivity and management information about the local station to adjacent stations on the same IEEE 802® LAN.

DCB exchanged attributes are packaged into Organizationally Specific TLVs. The OUI used for the DCBX TLV is the IEEE 802.1 OUI (i.e, 0x0080c2).

DCBX state machine transitions are based on the DCBX objects in the LLDP MIB module. Operation of the DCBX state machine may affect the values of the DCBX objects in the LLDP MIB module.

A port capable of any DCB feature shall have the capability for DCBX to be administratively disabled. The default state for DCBX is enabled.

DCBX is expected to operate over a point to point link. If multiple LLDP peer ports running DCBX are detected, then DCBX should behave as if the peer port's DCBX TLVs are not present until the multiple LLDP peer port condition is no longer present. However a transition in LLDP peer port may occur in some circumstances (e.g., such as a transition from system boot to system operation). Therefore when it is detected that the number of peer ports running DCBX exceeds 1 for a period longer than the longest TTL of any of the peers, a multi-peer condition is detected. During the time when the multi-peer condition has not been detected the DCBX data from the most recent DCBX peer shall be used. An LLDP peer port is identified by a concatenation of the chassis ID and port ID values transmitted in the LLDPDU. A DCBX peer port is a LLDP peer port that is sending DCBX TLVs.

DCBX defines two different types of attribute passing mechanisms:

a) Asymmetric: the passing of a attribute from one port to its peer port. In this case, the desired configuration for the peer may not match the local configuration; and
b) Symmetric: the passing of a attribute from one port to its peer port with objective of both ports utilizing the same attribute value.

38.4.1 Asymmetric attribute passing

38.4.1.1 Overview

Two types of TLV are passed for Asymmetric attribute Passing:

a) Configuration TLV: Provides current operational state and Willing bit. The received Willing bit is not used by the state machine, but instead provided to higher layers to provide an indication of the expected behavior of the remote port. The presence of the willing bit set to 1 indicates to the remote port that the local port is willing to accept a configuration for the specific attribute for which the willing bit is set.
b) Recommendation TLV: Provides recommendation for the operational state of remote port. Transmitted only if the local port is configured to make recommendations in which case it is transmitted in all LLDPDUs. Transmitted regardless of the “willingness” of the remote port.

NOTE—An implementation is allowed to send a recommendation TLV or a configuration TLV or both.

38.4.1.2 Asymmetric state variables

LocalWilling: Indicates that the local port has been administratively configured to accept recommendations. This value is included in the Willing bit of Configuration TLVs transmitted by this port. A local port may be configured as not Willing.

OperParam: The current operational value of the attribute on the local port. This value is included as the attribute in the Configuration TLVs.

LocalAdminParam: The administratively configured value for the attribute. This becomes the operational value of the attribute by default, and the operational value may be overridden if the local port accepts a recommendation from the remote port.

RemoteParam: The attribute received in the last Recommendation TLV. This variable is set to NULL if the remote LLDP database contains no Recommendation TLV.

DCBXMapping: A function that maps the received parameters to the capabilities of the receiving port.

38.4.1.3 Asymmetric state machine

The Asymmetric State Machine is depicted in Figure 38-1.

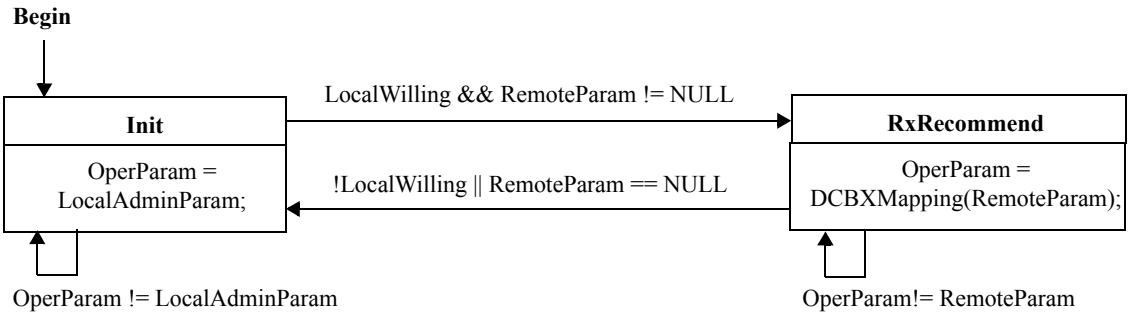

Figure 38-1—DCBX Asymmetric State Machine

38.4.2 Symmetric attribute passing

38.4.2.1 Overview

For Symmetric attribute passing one type of TLV is used:

a) Configuration TLV. This TLV always carries the current local operational state and a Willing (W) bit.

A port that sets the W bit is considered Willing. A Willing port shall set its operational attribute to that indicated in the received TLV if the received TLV has the W bit set to zero. If both the local port and remote port are willing, then the attribute values of the port with the lower numerical MAC address shall take precedence.

38.4.2.2 Symmetric state variables

LocalWilling: Indicates that the local port has been administratively configured to accept the attribute from the remote port. This value is included in the Willing bit of DCBX TLVs transmitted by this port.

RemoteWilling: rwTrue indicates that the Willing bit was set in the last TLV received. rwFalse indicates that the Willing bit was not set in the last TLV received. This variable is set to rwNull if the remote LLDP database contains no Willing bit.

LocalMAC: The MAC address of the local port.

RemoteMAC: The MAC address of the remote port.

OperParam: The current operational value of the attribute on the local port. This value is included as the attribute in the DCBX TLV.

RemoteParam: Contains the value of the last attribute (i.e. the operational value of the remote port) received in the TLV. This variable is set to NULL if the remote LLDP database contains no TLV.

LocalAdminParam: The administratively configured value for the attribute. This becomes the operational value of the attribute by default, and may be overridden if the local port accepts the attribute from the remote port.

DCBXMapping: A function that maps the received parameters to the capabilities of the receiving port.

NOTE—Through observation of the states and state variables it is possible to determine that the state machine is in the process of passing attributes. This knowledge may be useful for clients of DCBX. E.g. a client may wish to delay use of the link while the DCBX state machine is in the process of passing and possibly setting attributes. A "Pending" indication indicating that the state machine is in this process may be created by the following equations:

```
Pending = RemoteParam == NULL
          || !LocalWilling && RemoteWilling == rwTrue && OperParam != RemoteParam;
```

38.4.2.3 Symmetric state machine

The Symmetric state machine is depicted in Figure 38-2.

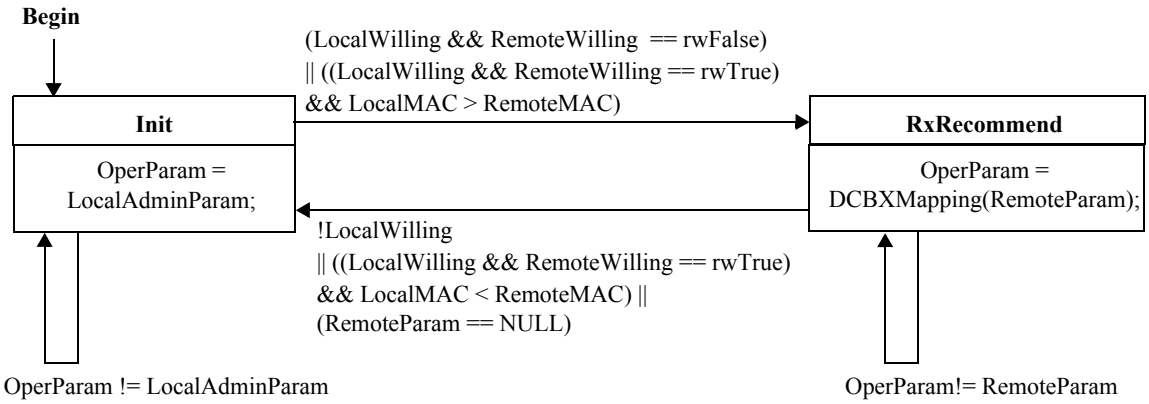

Figure 38-2—Symmetric State Machine

Annex A

(normative)

PICS proforma—Bridge implementations[2]

A.5 Major capabilities

Insert the following rows at the end of A.5:

Item	Feature	Status	References	Support
ETS	Does the implementation support bandwidth management using ETS?	O	37	Yes [ ] No [ ]
DCBX	Does the implementation support configuration management via DCBX?	O	38	Yes [ ] No [ ]

A.14 Bridge Management

Insert the following rows at the end of A.14:

Item	Feature	Status	References	Support
MGT-214	ETS Control Entities	ETS:M	12.24	Yes [ ] No [ ]
MGT-215	PFC Control Entities	PFC:M	12.25	Yes [ ] No [ ]

A.33 Priority-based Flow Control

Insert the following subclauses, A.34 and A.35, after A.33:

A.34 Enhanced Transmission Selection

Item	Feature	Status	References	Support
ETS-1	Support at least 3 traffic classes	ETS:M	37.3	Yes [ ]
ETS-2	Support bandwidth configuration with a granularity of 1% or finer	ETS:M	37.3	Yes [ ]
ETS-3	Support bandwidth allocation with a precision of 10%	ETS:M	37.3	Yes [ ]

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Item	Feature	Status	References	Support
ETS-4	Support allocation of a portion of available bandwidth to each traffic class	ETS:M	37.3	Yes [ ]
ETS-5	Support DCBX.	ETS:M	38	Yes [ ]

A.35 DCBX

Item	Feature	Status	References	Support
DCBX-1	Support LLDP	DCBX:M	IEEE Std 802.1AB	Yes [ ]
DCBX-2	Support the DCBX ETS Configuration TLV	DCBX:M	D.2.9	Yes [ ]
DCBX-3	Support the ETS Recommendation TLV	DCBX:M	D.2.10	Yes [ ]
DCBX-4	Support the Priority-based Flow Control Configuration TLV	DCBX:M	D.2.11	Yes [ ]
DCBX-5	Support the Application Priority TLV	DCBX:M	D.2.12	Yes [ ]
DCBX-6	Support the DCBX asymmetric state machine	DCBX:M	38.4.1	Yes [ ]
DCBX-7	Support the DCBX symmetric state machine	DCBX:M	38.4.2	Yes [ ]

Annex D

(normative)

IEEE 802.1 Organizationally Specific TLVs

D.1 Requirements of the IEEE 802.1 Organizationally Specific TLV set

Change Table D-1 by inserting the following rows at the end of the table and changing the last row as shown (note that the entire table is not shown here):

Table D-1—IEEE 802.1 Organizationally Specific TLVs

IEEE 802.1 subtype	TLV name	TLV set name	TLV reference	Feature clause reference
09	ETS Configuration TLV	dcbxSet	D.2.9	38
0A	ETS Recommendation TLV	dcbxSet	D.2.10	38
0B	Priority-based Flow Control Configuration TLV	dcbxSet	D.2.11	38
0C	Application Priority TLV	dcbxSet	D.2.12	38
~~08~~0D-FF	Reserved	—	—	—

D.2 Organizationally Specific TLV definitions

D.2.8 Congestion Notification TLV

Insert the following subclauses, D.2.9 through D.2.12.3 (including Figure D-9 through Figure D-12 and Table D-4 through Table D-9), after D.2.8.4, and renumber the subsequent tables in Annex D accordingly:

D.2.9 ETS Configuration TLV

The TLV illustrated in Figure D-9 is encoded into each IEEE Std 802.1AB-2009 LLDP message and may be transmitted by a system in order to indicate the ETS configuration. Shall be sent using Asymmetric attribute passing (38.4.1)

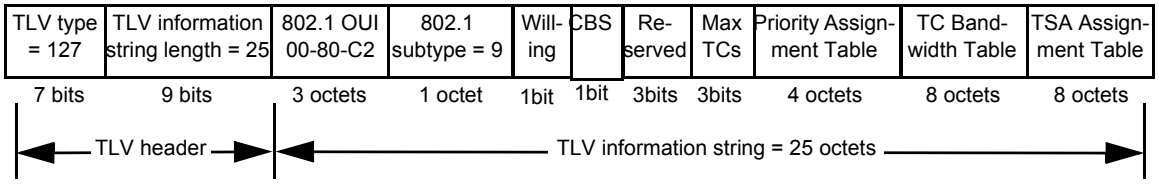

Figure D-9—ETS Configuration TLV format

D.2.9.1 TLV type

A 7-bit integer value occupying the most-significant bits of the first octet of the TLV. Always contains the value 127.

D.2.9.2 TLV information string length

A 9-bit unsigned integer, occupying the least-significant bit of the first octet of the TLV (the most-significant bit of the TLV information string length) and the entire second octet of the TLV, containing the total number of octets in the TLV information string of the ETS Configuration TLV. This does not count the TLV type and TLV information string length fields. It is equal to 25.

D.2.9.3 Willing

The Willing bit. A value of one indicates that the station is willing to accept configurations from the remote station.

D.2.9.4 CBS

The Credit-based Shaper (CBS) bit. A value of one indicates that the station supports the Credit-based Shaper transmission selection algorithm (see 8-5 and Clause 34).

D.2.9.5 Max TCs

A 3-bit unsigned integer where the value of the integer is the maximum number of traffic classes that the implementation can support with the value 0 used when a device supports 8.

D.2.9.6 Priority Assignment Table

Table D-4 shows the layout of the priority assignment table.

Table D-4—Priority assignment table

Octets:	1				2				3				4			
	Priority 0		Priority 1		Priority 2		Priority 3		Priority 4		Priority 5		Priority 6		Priority 7	
Bits:	7	4	3	0	7	4	3	0	7	4	3	0	7	4	3	0

The table consists of one 4-bit entry per Priority, where:

a) 0-7 indicate the Priority is mapped to the corresponding traffic class; and
b) All other values are Reserved.

D.2.9.7 TC Bandwidth Table

Table D-5 shows the layout of the traffic class bandwidth table.

Table D-5—Traffic class bandwidth assignment table

Octets:	1	2	3	4	5	6	7	8
	TC% 0	TC% 1	TC% 2	TC% 3	TC% 4	TC% 5	TC% 6	TC% 7

The table consists of one 8-bit entry per traffic class, and always contains 8 entries. Each entry:

a) Indicates the current TCBandwidth percentage configured for each traffic class N where N is 0 to 7.
b) Total shall equal 100 (implies valid range is 0-100 for each entry).

D.2.9.8 TSA Assignment Table

Table D-6 shows the layout of the Transmission Selection Algorithm (TSA) Assignment Table.

Table D-6—TSA Assignment Table

Octets:	1	2	3	4	5	6	7	8
	Traffic Class 0	Traffic Class 1	Traffic Class 2	Traffic Class 3	Traffic Class 4	Traffic Class 5	Traffic Class 6	Traffic Class 7

The table consists of one 8-bit entry per traffic class. Each entry indicates the Transmission selection algorithm to be used for that traffic class as defined in Table 8-5. A value of 255 indicates a Vendor-specific Transmission selection algorithm.

D.2.10 ETS Recommendation TLV

The TLV illustrated in Figure D-10 is encoded into each IEEE Std 802.1AB-2009 LLDP message and may be transmitted by a system in order to indicate a recommendation on how ETS should be configured. A Willing system may receive a recommendation TLV which utilizes more Traffic Classes than the receiving system supports. In this case the receiving system may assign the received recommendations to match its capabilities. Shall be sent using Asymmetric attribute passing (38.4.1).

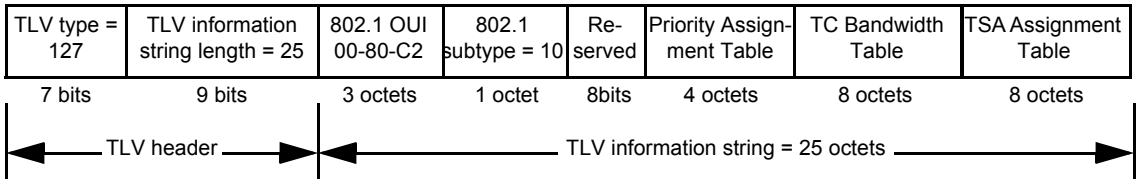

Figure D-10—ETS Recommendation TLV format

D.2.10.1 TLV type

A 7-bit integer value occupying the most-significant bits of the first octet of the TLV. Always contains the value 127.

D.2.10.2 TLV information string length

A 9-bit unsigned integer, occupying the least-significant bit of the first octet of the TLV (the most-significant bit of the TLV information string length) and the entire second octet of the TLV, containing the total number of octets in the TLV information string of the ETS Recommendation TLV. This does not count the TLV type and TLV information string length fields. It is equal to 25.

D.2.10.3 Priority Assignment Table

Table D-4 shows the layout of the priority assignment table.

See D.2.9.6 for description of table entries.

D.2.10.4 TC Bandwidth Table

Table D-5 shows the layout of the Traffic Class bandwidth assignment table.

See D.2.9.7 for description of table entries.

D.2.10.5 TSA Assignment Table

Table D-6 shows the layout of the TSA Assignment Table.

See D.2.9.8 for description of table entries.

D.2.11 Priority-based Flow Control Configuration TLV

The TLV illustrated in Figure D-11 is encoded into each IEEE Std 802.1AB-2009 LLDP message and may be transmitted by a system in order to indicate how Priority-based Flow Control should be configured. Shall be sent using Symmetric attribute passing.

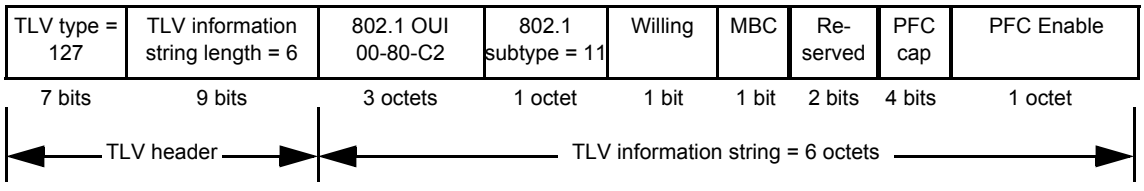

Figure D-11—Priority-based Flow Control TLV format

D.2.11.1 TLV type

A 7-bit integer value occupying the most-significant bits of the first octet of the TLV. Always contains the value 127.

D.2.11.2 TLV information string length

A 9-bit unsigned integer, occupying the least-significant bit of the first octet of the TLV (the most-significant bit of the TLV information string length) and the entire second octet of the TLV, containing the total number of octets in the TLV information string of the Priority-based Flow Control TLV. This does not count the TLV type and TLV information string length fields. It is equal to 6.

D.2.11.3 Willing

The Willing bit. A value of one indicates that the station is willing to accept configurations from the remote station.

D.2.11.4 MBC

The MACsec Bypass Capability Bit. If set to zero, the sending station is capable of bypassing MACsec processing when MACsec is disabled. If set to one, the sending station is not capable of bypassing MACsec processing when MACsec is disabled (see Clause 36).

D.2.11.5 PFC cap

A 4-bit unsigned integer, PFC cap (PFC capability) indicates the device's limitation of how many traffic classes may simultaneously support PFC

NOTE 1—PFC may be enabled on up to eight traffic classes allowing each priority to be independently paused.

NOTE 2—In a DCB environment at least one priority would generally have PFC enabled.

D.2.11.6 PFC Enable

Table D-7 shows the layout of the PFC Enable bit vector.

Table D-7—PFC Enable bit vector

Octet:	1							
	Priority 7	Priority 6	Priority 5	Priority 4	Priority 3	Priority 2	Priority 1	Priority 0
Bits:	7	6	5	4	3	2	1	0

A bit vector of 8 bits, one per priority:

a) A one indicates PFC is enabled on the priority.

b) A zero indicates that PFC is disabled on the priority.

c) Local policy in each end of the link decides whether to use the priority if the configuration does not match.

D.2.12 Application Priority TLV

The TLV illustrated in Figure D-12 is encoded into each IEEE Std 802.1AB-2009 LLDP message and may be transmitted by a system in order to indicate the application priority table. This TLV is informational and used to indicate to a peer station the local configuration.

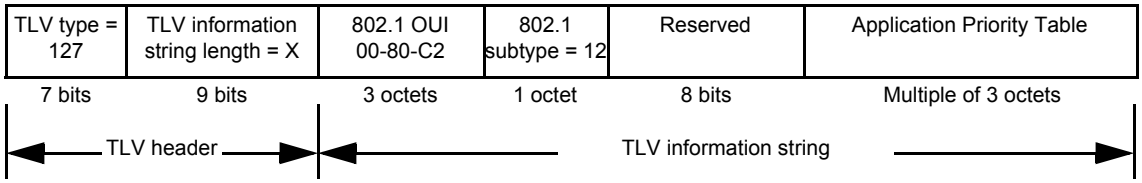

Figure D-12—Application Priority TLV format

D.2.12.1 TLV type

A 7-bit integer value occupying the most-significant bits of the first octet of the TLV. Always contains the value 127.

D.2.12.2 TLV information string length

A 9-bit unsigned integer, occupying the least-significant bit of the first octet of the TLV (the most-significant bit of the TLV information string length) and the entire second octet of the TLV, containing the total number of octets in the TLV information string of the Application Priority TLV. This does not count the TLV type and TLV information string length fields. The length for the Application TLV is variable depending on the number of Application Priorities specified. The length shall be 5 plus a multiple of 3 octets.

D.2.12.3 Application Priority Table

Table D-8 shows the layout of the Application Priority Table field.

Table D-8—Application Priority Table

Octets:	1						2		3	
	Priority		Reserved		Sel		Protocol ID			
Bits:	23	21	20	19	18	16	15			0

The priority field is a 3-bit unsigned integer indicating the priority for which the Protocol ID is being used.

The meaning of the Protocol ID field is determined by the Sel field. Allowed values for the Sel field are shown in Table D-9.

Table D-9—Sel field values

Sel Value	Protocol ID value
0	Reserved
1	0: Default priority. For use when priority is not otherwise specified. Ethertype: This value shall be more than 1536.
2	Well Known Port number over TCP, or SCTP.
3	Well Known Port number over UDP, or DCCP.
4	Well Known Port number over TCP, SCTP, UDP, or DCCP.
5 - 7	Reserved

NOTE—The port numbers shown are for identification (i.e., as assigned by IANA) instead of the actual port numbers being used in a particular deployment.

D.4 IEEE 802.1/LLDP Extension MIB

D.4.2 Structure of the IEEE 802.1/LLDP extension MIB

Insert the following rows at the end of Table D-10 (formerly Table D-4):

Table D-10—IEEE 802.1 extension MIB object group conformance requirements

MIB group	RX mode	Tx mode	Tx/Rx mode
lldpXdot1dcbxETSGroup	DCBX:M	DCBX:M	DCBX:M
lldpXdot1dcbxPFCGroup	DCBX:M	DCBX:M	DCBX:M
lldpXdot1dcbxApplicationPriorityGroup	DCBX:M	DCBX:M	DCBX:M

Insert the following rows at the end of Table D-11 (formerly Table D-5):

Table D-11—IEEE 802.1/LLDP extension MIB object cross reference

MIB table	MIB object	LLDP Reference
lldpXdot1dcbxConfig extension group[a]		
lldpXdot1dcbxConfigETSConfigurationEntry		
	lldpXdot1dcbxConfigETSConfigurationTxEnable	D.2.9
lldpXdot1dcbxConfigETSRecommendationTable		
	lldpXdot1dcbxConfigETSRecommendationTxEnable	D.2.10
lldpXdot1dcbxConfigPFCTable		
	lldpXdot1dcbxConfigPFCTxEnable	D.2.11
lldpXdot1dcbxConfigApplicationPriorityTable		
	lldpXdot1dcbxConfigApplicationPriorityTxEnable	D.2.12
lldpXdot1dcbxLocalData extension group[a]		
lldpXdot1dcbxLocETSBasicConfigurationTable		
	lldpXdot1dcbxLocETSConCreditBasedShaperSupport	D.2.9.4
	lldpXdot1dcbxLocETSConMaxTC	D.2.9.5
	lldpXdot1dcbxLocETSConWilling	D.2.9.3
	lldpXdot1dcbxLocETSConTrafficClassBandwidthTable	D.2.9.7
	lldpXdot1dcbxLocETSConTrafficSelectionAlgorithmTable	D.2.9.8
lldpXdot1dcbxLocETSConPriorityAssignmentTable		
	lldpXdot1dcbxLocETSConPriority	D.2.9.6
	lldpXdot1dcbxLocETSConTrafficClass	D.2.9.6
lldpXdot1dcbxLocETSRecommendationTable		
	lldpXdot1dcbxLocETSRecoTrafficClassBandwidthTable	D.2.10.4
lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmTable		
	lldpXdot1dcbxLocETSRecoTSAPriority	D.2.10.5
	lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithm	D.2.10.5
lldpXdot1dcbxLocPFCBasicTable		
	lldpXdot1dcbxLocPFCWilling	D.2.11.3
	lldpXdot1dcbxLocPFCMBC	D.2.11.4
	lldpXdot1dcbxLocPFCCap	D.2.11.5
lldpXdot1dcbxLocPFCEnableTable		

Table D-11—IEEE 802.1/LLDP extension MIB object cross reference

MIB table	MIB object	LLDP Reference
	lldpXdot1dcbxLocPFCEnablePriority	D.2.11.6
	lldpXdot1dcbxLocPFCEnableEnabled	D.2.11.6
lldpXdot1dcbxLocApplicationPriorityAppTable		
	lldpXdot1dcbxLocApplicationPriorityAESelector	D.2.12.3
	lldpXdot1dcbxLocApplicationPriorityAEProtocol	D.2.12.3
	lldpXdot1dcbxLocApplicationPriorityAEPriority	D.2.12.3
lldpXdot1dcbxRemoteData extension group[a]		
lldpXdot1dcbxRemETSBasicConfigurationTable		
	lldpXdot1dcbxRemETSConCreditBasedShaperSupport	D.2.9.4
	lldpXdot1dcbxRemETSConMaxTC	D.2.9.5
	lldpXdot1dcbxRemETSConWilling	D.2.9.3
	lldpXdot1dcbxRemETSConTrafficClassBandwidthTable	D.2.9.7
	lldpXdot1dcbxRemETSConTrafficSelectionAlgorithmTable	D.2.9.8
lldpXdot1dcbxRemETSConPriorityAssignmentTable		
	lldpXdot1dcbxRemETSConPriority	D.2.9.6
	lldpXdot1dcbxRemETSConTrafficClass	D.2.9.6
lldpXdot1dcbxRemETSRecommendationTable		
	lldpXdot1dcbxRemETSRecoTrafficClassBandwidthTable	D.2.10.4
lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmTable		
	lldpXdot1dcbxRemETSRecoTSAPriority	D.2.10.5
	lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithm	D.2.10.5
lldpXdot1dcbxRemPFCBasicTable		
	lldpXdot1dcbxRemPFCWilling	D.2.11.3
	lldpXdot1dcbxRemPFCMBC	D.2.11.4
	lldpXdot1dcbxRemPFCCap	D.2.11.5
lldpXdot1dcbxRemPFCEnableTable		
	lldpXdot1dcbxRemPFCEnablePriority	D.2.11.6
	lldpXdot1dcbxRemPFCEnableEnabled	D.2.11.6
lldpXdot1dcbxRemApplicationPriorityAppTable		
	lldpXdot1dcbxRemApplicationPriorityAESelector	D.2.12.3
	lldpXdot1dcbxRemApplicationPriorityAEProtocol	D.2.12.3
	lldpXdot1dcbxRemApplicationPriorityAEPriority	D.2.12.3

Table D-11—IEEE 802.1/LLDP extension MIB object cross reference

MIB table	MIB object	LLDP Reference
lldpXdot1dcbxAdminData extension group[a]		
lldpXdot1dcbxAdminETSBasicConfigurationTable		
	lldpXdot1dcbxAdminETSConCreditBasedShaperSupport	D.2.9.4
	lldpXdot1dcbxAdminETSConMaxTC	D.2.9.5
	lldpXdot1dcbxAdminETSConWilling	D.2.9.3
	lldpXdot1dcbxAdminETSConTrafficClassBandwidthTable	D.2.9.7
	lldpXdot1dcbxAdminETSConTrafficSelectionAlgorithmTable	D.2.9.8
lldpXdot1dcbxAdminETSConPriorityAssignmentTable		
	lldpXdot1dcbxAdminETSConPriority	D.2.9.6
	lldpXdot1dcbxAdminETSConTrafficClass	D.2.9.6
lldpXdot1dcbxAdminETSRecommendationTable		
	lldpXdot1dcbxAdminETSRecoTrafficClassBandwidthTable	D.2.10.4
lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmTable		
	lldpXdot1dcbxAdminETSRecoTSAPriority	D.2.10.5
	lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithm	D.2.10.5
lldpXdot1dcbxAdminPFCBasicTable		
	lldpXdot1dcbxAdminPFCWilling	D.2.11.3
	lldpXdot1dcbxAdminPFCMBC	D.2.11.4
	lldpXdot1dcbxAdminPFCCap	D.2.11.5
lldpXdot1dcbxAdminPFCEnableTable		
	lldpXdot1dcbxAdminPFCEnablePriority	D.2.11.6
	lldpXdot1dcbxAdminPFCEnableEnabled	D.2.11.6
lldpXdot1dcbxAdminApplicationPriorityAppTable		
	lldpXdot1dcbxAdminApplicationPriorityAESelector	D.2.12.3
	lldpXdot1dcbxAdminApplicationPriorityAEProtocol	D.2.12.3
	lldpXdot1dcbxAdminApplicationPriorityAEPriority	D.2.12.3

[a] The term Extension Group is used here to be consistent with LLDP (see IEEE Std 802.1AB). This is equivalent to subtree as used by IEEE Std 802.1Q.

D.4.4 Security considerations for IEEE 802.1 LLDP extension MIB module

Change item g) and item h) in D.4.4 as shown:

g) MIB objects that are related to the transmit mode
   1) lldpV2Xdot1LocPortVlanId

2) lldpV2Xdot1LocProtoVlanSupported
3) lldpV2Xdot1LocProtoVlanEnabled
4) lldpV2Xdot1LocVlanName
5) lldpV2Xdot1LocProtocolId
6) lldpV2Xdot1LocVidUsageDigest
7) lldpV2Xdot1LocManVidTxEnable
8) lldpV2Xdot1LocLinkAggStatus
9) lldpV2Xdot1LocLinkAggPortId
10) lldpXdot1dcbxConfigETSConfigurationEntry
11) lldpXdot1dcbxConfigPFCTable
12) lldpXdot1dcbxLocETSBasicConfigurationTable
13) lldpXdot1dcbxLocETSConPriorityAssignmentTable
14) lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmTable
15) lldpXdot1dcbxLocPFCBasicTable
16) lldpXdot1dcbxLocPFCEnableTable
17) lldpXdot1dcbxAdminETSBasicConfigurationTable
18) lldpXdot1dcbxAdminETSConPriorityAssignmentTable
19) lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmTable
20) lldpXdot1dcbxAdminPFCBasicTable
21) lldpXdot1dcbxAdminPFCEnableTable

h) MIB objects that are related to the receive mode
1) lldpV2Xdot1RemPortVlanId
2) lldpV2Xdot1RemProtoVlanSupported
3) lldpV2Xdot1RemProtoVlanEnabled
4) lldpV2Xdot1RemVlanName
5) lldpV2Xdot1RemProtocolId
6) lldpV2Xdot1RemVidUsageDigest
7) lldpV2Xdot1RemManVidTxEnable
8) lldpV2Xdot1RemLinkAggStatus
9) lldpV2Xdot1RemLinkAggPortId
10) lldpXdot1dcbxConfigETSConfigurationEntry
11) lldpXdot1dcbxConfigPFCTable
12) lldpXdot1dcbxRemETSBasicConfigurationTable
13) lldpXdot1dcbxRemETSConPriorityAssignmentTable
14) lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmTable
15) lldpXdot1dcbxRemPFCBasicTable
16) lldpXdot1dcbxRemPFCEnableTable
17) lldpXdot1dcbxAdminETSBasicConfigurationTable
18) lldpXdot1dcbxAdminETSConPriorityAssignmentTable
19) lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmTable
20) lldpXdot1dcbxAdminPFCBasicTable
21) lldpXdot1dcbxAdminPFCEnableTable

D.4.5 IEEE 802.1 LLDP extension MIB module—version 2

In the following MIB definition, should any discrepancy between the DESCRIPTION text and the corresponding definition in D.2.1 through D.4 occur, the definition in D.2.1 through D.4 shall take precedence.

Delete the rest of the text of D.4.5, and insert the following text:

```
LLDP-EXT-DOT1-V2-MIB DEFINITIONS ::= BEGIN

IMPORTS
    MODULE-IDENTITY,
    OBJECT-TYPE,
    Unsigned32
        FROM SNMPv2-SMI
    TruthValue,
    TEXTUAL-CONVENTION
        FROM SNMPv2-TC
    SnmpAdminString
        FROM SNMP-FRAMEWORK-MIB
    MODULE-COMPLIANCE,
    OBJECT-GROUP
        FROM SNMPv2-CONF
    ifGeneralInformationGroup
        FROM IF-MIB
    lldpV2Extensions,
    lldpV2LocPortIfIndex,
    lldpV2RemTimeMark,
    lldpV2RemLocalIfIndex,
    lldpV2RemLocalDestMACAddress,
    lldpV2RemIndex,
    lldpV2PortConfigEntry
        FROM LLDP-V2-MIB
    VlanId
        FROM Q-BRIDGE-MIB
    LldpV2LinkAggStatusMap
        FROM LLDP-V2-TC-MIB
    IEEE8021PriorityValue
        FROM IEEE8021-TC-MIB;

lldpV2Xdot1MIB MODULE-IDENTITY
    LAST-UPDATED "201103250000Z" -- March 25, 2011
    ORGANIZATION "IEEE 802.1 Working Group"
    CONTACT-INFO
           "WG-URL: http://grouper.ieee.org/groups/802/1/index.html
            WG-EMail: STDS-802-1-L@LISTSERV.IEEE.ORG

          Contact: Tony Jeffree
           Postal: C/O IEEE 802.1 Working Group
                   IEEE Standards Association
                   445 Hoes Lane
                   P.O. Box 1331
                   Piscataway
                   NJ 08855-1331
```



```
                    USA
            E-mail: STDS-802-1-L@LISTSERV.IEEE.ORG"
    DESCRIPTION
            "The LLDP Management Information Base extension module for
            IEEE 802.1 organizationally defined discovery information.

            In order to assure the uniqueness of the LLDP-V2-MIB,
            lldpV2Xdot1MIB is branched from lldpV2Extensions using an
            Organizationally Unique Identifier (OUI) value as the node.
            An OUI is a 24 bit globally unique number assigned by the
            IEEE Registration Authority - see:

            http://standards.ieee.org/develop/regauth/oui/index.html

            Unless otherwise indicated, the references in this
            MIB module are to IEEE Std 802.1Q-2011.

            Copyright (C) IEEE (2011).  This version of this MIB module
            is published as Annex D.4.5 of IEEE Std 802.1Qaz-2011;
            see the standard itself for full legal notices."

    REVISION "201103250000Z" -- March 25, 2011

    DESCRIPTION
            "Published as part of IEEE Std 802.1Qaz-2011. Adds the DCBX
            objects to the MIB module"

    REVISION "201103230000Z" -- March 23, 2011

    DESCRIPTION
            "Published as part of IEEE Std 802.1Q-2011 revision.
            This revision contains changes associated with
            relocating the extension MIB from IEEE Std 802.1AB to
            IEEE Std 802.1Q, minor tweaks to the text of the
            DESCRIPTION statement above to fix references to
            IEEE Std 802.1Q, updating of references to refer to
            Annex D, and addition of object definitions for
            Congestion Notification TLVs and corresponding
            compliance statements."

    REVISION "200906080000Z" -- June 08, 2009

    DESCRIPTION
            "Published as part of IEEE Std 802.1AB-2009 revision.
            This revision incorporated changes to the MIB to
            support the use of LLDP with multiple destination MAC
            addresses, and to import the Link Aggregation TLV
            from the 802.3 extension MIB"

-- OUI for IEEE 802.1 is 32962 (00-80-C2)
   ::= { lldpV2Extensions 32962 }

-------------------------------------------------------------------------
-------------------------------------------------------------------------
```

```
--
-- Organizationally Defined Information Extension - IEEE 802.1
-- Definitions to support the basicSet TLV set (Table D-1)
--
-----------------------------------------------------------------------
-----------------------------------------------------------------------

lldpV2Xdot1Objects    OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 1 }

-- LLDP IEEE 802.1 extension MIB groups
lldpV2Xdot1Config     OBJECT IDENTIFIER ::= { lldpV2Xdot1Objects 1 }
lldpV2Xdot1LocalData  OBJECT IDENTIFIER ::= { lldpV2Xdot1Objects 2 }
lldpV2Xdot1RemoteData OBJECT IDENTIFIER ::= { lldpV2Xdot1Objects 3 }

-----------------------------------------------------------------------
-- IEEE 802.1 - Configuration for the basicSet TLV set
-----------------------------------------------------------------------

--
-- lldpV2Xdot1ConfigPortVlanTable : configure the transmission of the
--                                  Port VLAN-ID TLVs on set of ports.
--

lldpV2Xdot1ConfigPortVlanTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1ConfigPortVlanEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "A table that controls selection of LLDP Port VLAN-ID TLVs
            to be transmitted on individual ports."
    ::= { lldpV2Xdot1Config 1 }

lldpV2Xdot1ConfigPortVlanEntry  OBJECT-TYPE
    SYNTAX      LldpV2Xdot1ConfigPortVlanEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "LLDP configuration information that controls the
            transmission of IEEE 802.1 organizationally defined Port
            VLAN-ID TLV on LLDP transmission capable ports.

            This configuration object augments the
            lldpV2PortConfigEntry of the LLDP-MIB, therefore it is only
            present along with the port configuration defined by the
            associated lldpV2PortConfigEntry entry.

            Each active lldpConfigEntry is restored from non-volatile
            storage (along with the corresponding
            lldpV2PortConfigEntry) after a re-initialization of the
            management system."
    AUGMENTS { lldpV2PortConfigEntry }
    ::= { lldpV2Xdot1ConfigPortVlanTable 1 }

LldpV2Xdot1ConfigPortVlanEntry ::= SEQUENCE {
```

```
      lldpV2Xdot1ConfigPortVlanTxEnable  TruthValue
}

lldpV2Xdot1ConfigPortVlanTxEnable OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
            "The lldpV2Xdot1ConfigPortVlanTxEnable, which is defined
            as a truth value and configured by the network management,
            determines whether the IEEE 802.1 organizationally defined
            port VLAN TLV transmission is allowed on a given LLDP
            transmission capable port.

            The value of this object is restored from non-volatile
            storage after a re-initialization of the management system."
    REFERENCE
            "9.1.2.1 of IEEE Std 802.1AB"
    DEFVAL  { false }
    ::= { lldpV2Xdot1ConfigPortVlanEntry 1 }


--
-- lldpV2Xdot1ConfigVlanNameTable : configure the transmission of the
--                                  VLAN name instances on set of ports.
--

lldpV2Xdot1ConfigVlanNameTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1ConfigVlanNameEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "The table that controls selection of LLDP VLAN name TLV
            instances to be transmitted on individual ports."
    ::= { lldpV2Xdot1Config 2 }

lldpV2Xdot1ConfigVlanNameEntry  OBJECT-TYPE
    SYNTAX      LldpV2Xdot1ConfigVlanNameEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "LLDP configuration information that specifies the set of
            ports (represented as a PortList) on which the Local System
            VLAN name instance is transmitted.

            This configuration object augments the lldpV2LocVlanEntry,
            therefore it is only present along with the VLAN Name
            instance contained in the associated lldpV2LocVlanNameEntry
            entry.

            Each active lldpV2Xdot1ConfigVlanNameEntry is restored
            from non-volatile storage (along with the corresponding
            lldpV2Xdot1LocVlanNameEntry) after a re-initialization of
            the management system."
```

```
    AUGMENTS { lldpV2Xdot1LocVlanNameEntry }
    ::= { lldpV2Xdot1ConfigVlanNameTable 1 }



LldpV2Xdot1ConfigVlanNameEntry ::= SEQUENCE {
      lldpV2Xdot1ConfigVlanNameTxEnable  TruthValue
}

lldpV2Xdot1ConfigVlanNameTxEnable  OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
            "The boolean value that indicates whether the corresponding
            Local System VLAN name instance is transmitted on the
            port defined by the given lldpV2Xdot1LocVlanNameEntry.

            The value of this object is restored from non-volatile
            storage after a re-initialization of the management
            system."
    REFERENCE
            "9.1.2.1 of IEEE Std 802.1AB"
    DEFVAL  { false }
    ::= { lldpV2Xdot1ConfigVlanNameEntry 1 }


--
-- lldpV2Xdot1ConfigProtoVlanTable : configure the transmission of the
--                                   protocol VLAN instances on set
--                                   of ports.
--

lldpV2Xdot1ConfigProtoVlanTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1ConfigProtoVlanEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "The table that controls selection of LLDP Port and
            Protocol VLAN ID TLV instances to be transmitted on
            individual ports."
    ::= { lldpV2Xdot1Config 3 }

lldpV2Xdot1ConfigProtoVlanEntry  OBJECT-TYPE
    SYNTAX      LldpV2Xdot1ConfigProtoVlanEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "LLDP configuration information that specifies the set of
            ports (represented as a PortList) on which the Local System
            Protocol VLAN instance is transmitted.

            This configuration object augments the
            lldpV2Xdot1LocVlanEntry, therefore it is only present along
```

```
            with the Port and Protocol VLAN ID instance contained in
            the associated lldpV2Xdot1LocVlanEntry entry.

            Each active lldpV2Xdot1ConfigProtoVlanEntry is restored
            from non-volatile storage (along with the corresponding
            lldpV2Xdot1LocProtoVlanEntry) after a re-initialization of
            the management system."

    AUGMENTS { lldpV2Xdot1LocProtoVlanEntry }
    ::= { lldpV2Xdot1ConfigProtoVlanTable 1 }


LldpV2Xdot1ConfigProtoVlanEntry ::= SEQUENCE {
      lldpV2Xdot1ConfigProtoVlanTxEnable   TruthValue
}

lldpV2Xdot1ConfigProtoVlanTxEnable OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
            "The boolean value that indicates whether the corresponding
            Local System Port and Protocol VLAN instance is
            transmitted on the port defined by the given
            lldpV2Xdot1LocProtoVlanEntry.

            The value of this object is restored from non-volatile
            storage after a re-initialization of the management system."
    REFERENCE
            "9.1.2.1 of IEEE Std 802.1AB"
    DEFVAL  { false }
    ::= { lldpV2Xdot1ConfigProtoVlanEntry 1 }


--
-- lldpV2Xdot1ConfigProtocolTable : configure the transmission of the
--                                  protocol instances on set
--                                  of ports.
--

lldpV2Xdot1ConfigProtocolTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1ConfigProtocolEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "The table that controls selection of LLDP Protocol
            TLV instances to be transmitted on individual ports."
    ::= { lldpV2Xdot1Config 4 }

lldpV2Xdot1ConfigProtocolEntry  OBJECT-TYPE
    SYNTAX      LldpV2Xdot1ConfigProtocolEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
```

```
            "LLDP configuration information that specifies the set of
            ports (represented as a PortList) on which the Local System
            Protocol instance is transmitted.

            This configuration object augments the
            lldpV2Xdot1LocProtoEntry, therefore it is only present
            along with the Protocol instance contained in the
            associated lldpV2Xdot1LocProtoEntry entry.

            Each active lldpV2Xdot1ConfigProtocolEntry is restored
            from non-volatile storage (along with the corresponding
            lldpV2Xdot1LocProtocolEntry) after a re-initialization of
            the management system."
    AUGMENTS { lldpV2Xdot1LocProtocolEntry }
    ::= { lldpV2Xdot1ConfigProtocolTable 1 }


LldpV2Xdot1ConfigProtocolEntry ::= SEQUENCE {
      lldpV2Xdot1ConfigProtocolTxEnable   TruthValue
}

lldpV2Xdot1ConfigProtocolTxEnable  OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
            "The boolean value that indicates whether the corresponding
            Local System Protocol Identity instance is transmitted
            on the port defined by the given
            lldpV2Xdot1LocProtocolEntry.

            The value of this object is restored from non-volatile
            storage after a re-initialization of the management
            system."
    REFERENCE
            "9.1.2.1 of IEEE Std 802.1AB"
    DEFVAL  { false }
    ::= { lldpV2Xdot1ConfigProtocolEntry 1 }

--
-- lldpV2Xdot1ConfigVidUsageDigestTable: configure the transmission
-- of the VID Usage Digest TLVs on set of ports.
--
lldpV2Xdot1ConfigVidUsageDigestTable OBJECT-TYPE
     SYNTAX SEQUENCE OF LldpV2Xdot1ConfigVidUsageDigestEntry
     MAX-ACCESS not-accessible
     STATUS current
     DESCRIPTION
          "A table that controls selection of LLDP VID Usage Digest
          TLVs to be transmitted on individual ports."
::= { lldpV2Xdot1Config 5 }

lldpV2Xdot1ConfigVidUsageDigestEntry OBJECT-TYPE
     SYNTAX LldpV2Xdot1ConfigVidUsageDigestEntry
```

```
     MAX-ACCESS not-accessible
     STATUS current
     DESCRIPTION
          "LLDP configuration information that specifies the set of
          ports (represented as a PortList) on which the local
          system VID Usage Digest instance will be transmitted.
          This configuration object augments the
          lldpLocVidUsageDigestEntry, therefore it is only present
          along with the VID Usage Digest instance
          contained in the associated lldpV2Xdot1LocVidUsageDigestEntry
          entry. Each active lldpConfigVidUsageDigestEntry must be
          restored from non-volatile storage and re-created (along with
          the corresponding lldpV2Xdot1LocVidUsageDigestEntry) after
          a re-initialization of the management system."
     AUGMENTS { lldpV2Xdot1LocVidUsageDigestEntry }
::= { lldpV2Xdot1ConfigVidUsageDigestTable 1 }

LldpV2Xdot1ConfigVidUsageDigestEntry ::= SEQUENCE {
     lldpV2Xdot1ConfigVidUsageDigestTxEnable TruthValue
     }

lldpV2Xdot1ConfigVidUsageDigestTxEnable OBJECT-TYPE
     SYNTAX TruthValue
     MAX-ACCESS read-write
     STATUS current
     DESCRIPTION
          "The boolean value that indicates whether the corresponding
          Local System VID Usage Digest instance will be transmitted
          on the port defined by the given
          lldpV2Xdot1LocVidUsageDigestEntry. The value of this object
          must be restored from non-volatile storage after a
          reinitialization of the management system."
     REFERENCE
          "9.1.2.1 of IEEE Std 802.1AB"
     DEFVAL { false }
::= { lldpV2Xdot1ConfigVidUsageDigestEntry 1 }


--
-- lldpV2Xdot1ConfigManVidTable : configure the transmission of the
-- Management VID TLVs on set of ports.
--
lldpV2Xdot1ConfigManVidTable OBJECT-TYPE
     SYNTAX SEQUENCE OF LldpV2Xdot1ConfigManVidEntry
     MAX-ACCESS not-accessible
     STATUS current
     DESCRIPTION
          "A table that controls selection of LLDP Management VID
          TLVs to be transmitted on individual ports."
::= { lldpV2Xdot1Config 6 }

lldpV2Xdot1ConfigManVidEntry OBJECT-TYPE
     SYNTAX LldpV2Xdot1ConfigManVidEntry
     MAX-ACCESS not-accessible
```

```
     STATUS current
     DESCRIPTION
          "LLDP configuration information that specifies the set of
          port/destination address pairs on which the Local
          System Management VID will be transmitted.
          This configuration object augments the
          lldpV2Xdot1LocManVidEntry, therefore it is
          only present along with the Management VID contained
          in the associated lldpV2Xdot1LocManVidEntry entry.
          Each active lldpV2Xdot1ConfigManVidEntry must be
          restored from non-volatile storage (along with the
          corresponding lldpV2Xdot1LocManVidEntry) after a
          re-initialization of the management system."
     AUGMENTS { lldpV2Xdot1LocManVidEntry }
::= { lldpV2Xdot1ConfigManVidTable 1 }

LldpV2Xdot1ConfigManVidEntry ::= SEQUENCE {
     lldpV2Xdot1ConfigManVidTxEnable TruthValue
     }

lldpV2Xdot1ConfigManVidTxEnable OBJECT-TYPE
     SYNTAX TruthValue
     MAX-ACCESS read-write
     STATUS current
     DESCRIPTION
          "The lldpV2Xdot1ConfigManVidTxEnable, which is defined as a
          truth value and configured by the network management,
          determines whether the IEEE 802.1 organizationally
          defined Management VID TLV transmission is allowed on a given
          LLDP transmission capable port.
          The value of this object must be restored from
          non-volatile storage after a re-initialization of the
          management system."
     REFERENCE
          "9.1.2.1 of IEEE Std 802.1AB"
     DEFVAL { false }
::= { lldpV2Xdot1ConfigManVidEntry 1 }


--------------------------------------------------------------------------
-- IEEE 802.1 - Local System Information
--------------------------------------------------------------------------

--
-- lldpV2Xdot1LocTable - indexed by ifIndex.
--

lldpV2Xdot1LocTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1LocEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one row per port for IEEE 802.1
            organizationally defined LLDP extension on the local system
```



```
            known to this agent."
    ::= { lldpV2Xdot1LocalData 1 }

lldpV2Xdot1LocEntry  OBJECT-TYPE
    SYNTAX      LldpV2Xdot1LocEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Information about IEEE 802.1 organizationally defined
            LLDP extension."
    INDEX   { lldpV2LocPortIfIndex }
    ::= { lldpV2Xdot1LocTable 1 }

LldpV2Xdot1LocEntry ::= SEQUENCE {
         lldpV2Xdot1LocPortVlanId       Unsigned32
}

lldpV2Xdot1LocPortVlanId OBJECT-TYPE
    SYNTAX      Unsigned32(0|1..4094)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The integer value used to identify the port's VLAN
            identifier associated with the local system.   A value
            of zero shall be used if the system either does not know
            the PVID or does
            not support port-based VLAN operation."
    REFERENCE
            "D.2.1.1"
    ::= { lldpV2Xdot1LocEntry 1 }



--
-- lldpV2Xdot1LocProtoVlanTable: Port and Protocol VLAN information
-- re-indexed by ifIndex.
--

lldpV2Xdot1LocProtoVlanTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1LocProtoVlanEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one or more rows per Port and Protocol
            VLAN information about the local system."
    ::= { lldpV2Xdot1LocalData 2 }

lldpV2Xdot1LocProtoVlanEntry OBJECT-TYPE
    SYNTAX      LldpV2Xdot1LocProtoVlanEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Port and protocol VLAN ID Information about a particular
            port component.  There may be multiple port and protocol
```

```
            VLANs, identified by a particular
            lldpV2Xdot1LocProtoVlanId, configured on the given port."
    INDEX   { lldpV2LocPortIfIndex,
              lldpV2Xdot1LocProtoVlanId }
    ::= { lldpV2Xdot1LocProtoVlanTable 1 }

LldpV2Xdot1LocProtoVlanEntry ::= SEQUENCE {
      lldpV2Xdot1LocProtoVlanId        Unsigned32,
      lldpV2Xdot1LocProtoVlanSupported TruthValue,
      lldpV2Xdot1LocProtoVlanEnabled   TruthValue
}

lldpV2Xdot1LocProtoVlanId  OBJECT-TYPE
    SYNTAX      Unsigned32(0|1..4094)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "The integer value used to identify the port and protocol
            VLANs associated with the given port associated with the
            local system.  A value of zero shall be used if the system
            either does not know the protocol VLAN ID (PPVID) or does
            not support port and protocol VLAN operation."
    REFERENCE
            "D.2.2.2"
    ::= { lldpV2Xdot1LocProtoVlanEntry 1 }

lldpV2Xdot1LocProtoVlanSupported  OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The truth value used to indicate whether the given port
            (associated with the local system) supports port and
            protocol VLANs."
    REFERENCE
            "D.2.2.1"
    ::= { lldpV2Xdot1LocProtoVlanEntry 2 }

lldpV2Xdot1LocProtoVlanEnabled  OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The truth value used to indicate whether the port and
            protocol VLANs are enabled on the given port associated
            with the local system."
    REFERENCE
            "D.2.2.1"
    ::= { lldpV2Xdot1LocProtoVlanEntry 3 }



--
-- lldpV2Xdot1LocVlanNameTable : VLAN name information about the local
```

```
-- system indexed by ifIndex.
--

lldpV2Xdot1LocVlanNameTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1LocVlanNameEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one or more rows per IEEE 802.1Q VLAN
            name information on the local system known to this agent."
    ::= { lldpV2Xdot1LocalData 3 }

lldpV2Xdot1LocVlanNameEntry OBJECT-TYPE
    SYNTAX      LldpV2Xdot1LocVlanNameEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "VLAN name Information about a particular port component.
            There may be multiple VLANs, identified by a particular
            lldpV2Xdot1LocVlanId, configured on the given port."
    INDEX   { lldpV2LocPortIfIndex,
              lldpV2Xdot1LocVlanId }
    ::= { lldpV2Xdot1LocVlanNameTable 1 }

LldpV2Xdot1LocVlanNameEntry ::= SEQUENCE {
      lldpV2Xdot1LocVlanId             VlanId,
      lldpV2Xdot1LocVlanName           SnmpAdminString
}

lldpV2Xdot1LocVlanId  OBJECT-TYPE
    SYNTAX      VlanId
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "The integer value used to identify the IEEE 802.1Q
            VLAN IDs with which the given port is compatible."
    REFERENCE
            "D.2.3.2"
    ::= { lldpV2Xdot1LocVlanNameEntry 1 }

lldpV2Xdot1LocVlanName  OBJECT-TYPE
    SYNTAX      SnmpAdminString (SIZE(1..32))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The string value used to identify VLAN name identified
            by the Vlan Id associated with the given port on the
            local system.

            This object should contain the value of the
            dot1QVLANStaticName object (defined in IETF RFC 4363)
            identified with the given lldpV2Xdot1LocVlanId."
    REFERENCE
            "D.2.3.4"
```

```
    ::= { lldpV2Xdot1LocVlanNameEntry 2 }



--
-- lldpV2Xdot1LocProtocolTable : Protocol Identity information
-- re-indexed by ifIndex and destination address
--

lldpV2Xdot1LocProtocolTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1LocProtocolEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one or more rows per protocol identity
            information on the local system known to this agent."
    REFERENCE
            "D.2.4"
    ::= { lldpV2Xdot1LocalData 4 }

lldpV2Xdot1LocProtocolEntry  OBJECT-TYPE
    SYNTAX      LldpV2Xdot1LocProtocolEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Information about particular protocols that are accessible
            through the given port component.

            There may be multiple protocols, identified by particular
            lldpV2Xdot1ProtocolIndex, lldpV2LocPortIfIndex"
    REFERENCE
            "D.2.4"
    INDEX   { lldpV2LocPortIfIndex,
              lldpV2Xdot1LocProtocolIndex }
    ::= { lldpV2Xdot1LocProtocolTable 1 }

LldpV2Xdot1LocProtocolEntry ::= SEQUENCE {
      lldpV2Xdot1LocProtocolIndex Unsigned32,
      lldpV2Xdot1LocProtocolId    OCTET STRING
}


lldpV2Xdot1LocProtocolIndex  OBJECT-TYPE
    SYNTAX      Unsigned32(1..2147483647)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This object represents an arbitrary local integer value
            used by this agent to identify a particular protocol
            identity."
    ::= { lldpV2Xdot1LocProtocolEntry 1 }

lldpV2Xdot1LocProtocolId  OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE (1..255))
```

```
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The octet string value used to identify the protocols
            associated with the given port of the local system."
    REFERENCE
            "D.2.4.3"
    ::= { lldpV2Xdot1LocProtocolEntry 2 }

--
-- lldpV2Xdot1LocVidUsageDigestTable: Table of hash values of
-- system VID Usage Table transmitted
-- via VID Usage Digest TLV.
--


lldpV2Xdot1LocVidUsageDigestTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1LocVidUsageDigestEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one row per ifIndex/
            destination MAC address pair for usage digest
            information on the local system known to this agent."
    REFERENCE
            "D.2.5"
    ::= { lldpV2Xdot1LocalData 5 }

lldpV2Xdot1LocVidUsageDigestEntry  OBJECT-TYPE
    SYNTAX      LldpV2Xdot1LocVidUsageDigestEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Usage digest information to be transmitted
            through the given port."
    REFERENCE
            "D.2.5"
    INDEX   { lldpV2LocPortIfIndex }
    ::= { lldpV2Xdot1LocVidUsageDigestTable 1 }

LldpV2Xdot1LocVidUsageDigestEntry ::= SEQUENCE {
      lldpV2Xdot1LocVidUsageDigest Unsigned32
}


lldpV2Xdot1LocVidUsageDigest OBJECT-TYPE
    SYNTAX Unsigned32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The integer value obtained by applying the CRC32 function
        to the 128-octet VID Usage Table. A bit of the VID Usage
        Table contains the value PBB-TE-USAGE (binary 1) if the
        corresponding element of the MST Configuration Table
```

```
        (IEEE Std 802.1Q 8.9.1) contains the value PBB-TE MSTID
        (hex FFE) and otherwise contains the value NON-PBB-TE-USAGE
        (binary 0)."
    REFERENCE
        "D.2.5.1"
::= { lldpV2Xdot1LocVidUsageDigestEntry 1 }

--
-- lldpV2Xdot1LocManVidTable: Table of values configured on the Local
-- system for the Management VID, or the value 0 if a Management VID
-- has not been provisioned.
--

lldpV2Xdot1LocManVidTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1LocManVidEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one row per ifIndex/
            destination MAC address pair for usage digest
            information on the local system known to this agent."
    REFERENCE
            "D.2.6"
    ::= { lldpV2Xdot1LocalData 6 }

lldpV2Xdot1LocManVidEntry  OBJECT-TYPE
    SYNTAX      LldpV2Xdot1LocManVidEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Usage digest information to be transmitted
            through the given port."
    REFERENCE
            "D.2.6"
    INDEX   { lldpV2LocPortIfIndex }
    ::= { lldpV2Xdot1LocManVidTable 1 }

LldpV2Xdot1LocManVidEntry ::= SEQUENCE {
      lldpV2Xdot1LocManVid Unsigned32
}

lldpV2Xdot1LocManVid OBJECT-TYPE
    SYNTAX Unsigned32 (0|1..4094)
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The integer value configured on the Local system for
        the Management VID, or
        the value 0 if a Management VID has not been provisioned."
    REFERENCE
        "D.2.6.1"
::= { lldpV2Xdot1LocManVidEntry 1 }
```

```
-----------------------------------------------------------------------
-- IEEE 802.1 - Local System Information - Link Aggregation
-----------------------------------------------------------------------

---
---
--- lldpV2Xdot1LocLinkAggTable: Link Aggregation Information Table
---
---
lldpV2Xdot1LocLinkAggTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1LocLinkAggEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one row per port of link aggregation
            information (as a part of the LLDP 802.1 organizational
            extension) on the local system known to this agent."
    ::= { lldpV2Xdot1LocalData 7 }

lldpV2Xdot1LocLinkAggEntry OBJECT-TYPE
    SYNTAX      LldpV2Xdot1LocLinkAggEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Link Aggregation information about a particular port
            component."
    INDEX   { lldpV2LocPortIfIndex }
    ::= { lldpV2Xdot1LocLinkAggTable 1 }

LldpV2Xdot1LocLinkAggEntry ::= SEQUENCE {
      lldpV2Xdot1LocLinkAggStatus       LldpV2LinkAggStatusMap,
      lldpV2Xdot1LocLinkAggPortId       Unsigned32
}

lldpV2Xdot1LocLinkAggStatus OBJECT-TYPE
    SYNTAX      LldpV2LinkAggStatusMap
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The bitmap value contains the link aggregation
            capabilities and the current aggregation status of the
            link."
    REFERENCE
            "D.2.7.1"
    ::= { lldpV2Xdot1LocLinkAggEntry 1 }

lldpV2Xdot1LocLinkAggPortId OBJECT-TYPE
    SYNTAX      Unsigned32(0|1..2147483647)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "This object contains the IEEE 802.1 aggregated port
            identifier, aAggPortID (IEEE Std 802.1AX, 6.3.2.1.1),
            derived from the ifNumber of the  ifIndex for the port
```

```
            component in link aggregation.

            If the port is not in link aggregation state and/or it
            does not support link aggregation, this value should be set
            to zero."
    REFERENCE
            "D.2.7.1"
    ::= { lldpV2Xdot1LocLinkAggEntry 2 }



--------------------------------------------------------------------------
-- IEEE 802.1 - Remote System Information
--------------------------------------------------------------------------

--
-- lldpV2Xdot1RemTable - re-indexed for ifIndex and destination MAC
-- address

lldpV2Xdot1RemTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1RemEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one or more rows per physical network
            connection known to this agent.  The agent may wish to
            ensure that only one lldpV2Xdot1RemEntry is present for
            each local port, or it may choose to maintain multiple
            lldpV2Xdot1RemEntries for the same local port."
    ::= { lldpV2Xdot1RemoteData 1 }

lldpV2Xdot1RemEntry OBJECT-TYPE
    SYNTAX      LldpV2Xdot1RemEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Information about a particular port component."
    INDEX   { lldpV2RemTimeMark,
              lldpV2RemLocalIfIndex,
              lldpV2RemLocalDestMACAddress,
              lldpV2RemIndex }
    ::= { lldpV2Xdot1RemTable 1 }

LldpV2Xdot1RemEntry ::= SEQUENCE {
            lldpV2Xdot1RemPortVlanId           Unsigned32
}

lldpV2Xdot1RemPortVlanId OBJECT-TYPE
    SYNTAX      Unsigned32(0|1..4094)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The integer value used to identify the port's VLAN
            identifier associated with the remote system.  if the
```

```
            remote system either does not know the PVID or does not
            support port-based VLAN operation, the value of
            lldpV2Xdot1RemPortVlanId should be zero."
    REFERENCE
            "D.2.1.1"
    ::= { lldpV2Xdot1RemEntry 1 }



--
-- lldpV2Xdot1RemProtoVlanTable - re-indexed by ifIndex and
-- destination MAC address
--

lldpV2Xdot1RemProtoVlanTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1RemProtoVlanEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one or more rows per Port and Protocol
            VLAN information about the remote system, received on the
            given port."
    ::= { lldpV2Xdot1RemoteData 2 }

lldpV2Xdot1RemProtoVlanEntry OBJECT-TYPE
    SYNTAX      LldpV2Xdot1RemProtoVlanEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Port and protocol VLAN name Information about a particular
            port component.  There may be multiple protocol VLANs,
            identified by a particular lldpV2Xdot1RemProtoVlanId,
            configured on the remote system."
    INDEX   { lldpV2RemTimeMark,
              lldpV2RemLocalIfIndex,
              lldpV2RemLocalDestMACAddress,
              lldpV2RemIndex,
              lldpV2Xdot1RemProtoVlanId }
    ::= { lldpV2Xdot1RemProtoVlanTable 1 }

LldpV2Xdot1RemProtoVlanEntry ::= SEQUENCE {
            lldpV2Xdot1RemProtoVlanId          Unsigned32,
            lldpV2Xdot1RemProtoVlanSupported   TruthValue,
            lldpV2Xdot1RemProtoVlanEnabled     TruthValue
}

lldpV2Xdot1RemProtoVlanId  OBJECT-TYPE
    SYNTAX      Unsigned32(0|1..4094)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "The integer value used to identify the port and protocol
            VLANs associated with the given port associated with the
            remote system.
```

```
            If port and protocol VLANs are not supported on the given
            port associated with the remote system, or if the port is
            not enabled with any port and protocol VLAN, the value of
            lldpV2Xdot1RemProtoVlanId should be zero."
    REFERENCE
            "D.2.2.2"
    ::= { lldpV2Xdot1RemProtoVlanEntry 1 }

lldpV2Xdot1RemProtoVlanSupported  OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The truth value used to indicate whether the given port
            (associated with the remote system) is capable of
            supporting port and protocol VLANs."
    REFERENCE
            "D.2.2.1"
    ::= { lldpV2Xdot1RemProtoVlanEntry 2 }

lldpV2Xdot1RemProtoVlanEnabled  OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The truth value used to indicate whether the port and
            protocol VLANs are enabled on the given port associated
            with
            the remote system."
    REFERENCE
            "D.2.2.1"
    ::= { lldpV2Xdot1RemProtoVlanEntry 3 }



--
-- lldpV2Xdot1RemVlanNameTable : VLAN name information of the remote
--                               systems
-- Re-indexed by ifIndex and destination MAC address
--

lldpV2Xdot1RemVlanNameTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1RemVlanNameEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one or more rows per IEEE 802.1Q VLAN
            name information about the remote system, received on the
            given port."
    REFERENCE
            "D.2.3"
    ::= { lldpV2Xdot1RemoteData 3 }
```

```
lldpV2Xdot1RemVlanNameEntry OBJECT-TYPE
    SYNTAX      LldpV2Xdot1RemVlanNameEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "VLAN name Information about a particular port component.
            There may be multiple VLANs, identified by a particular
            lldpV2Xdot1RemVlanId, received on the given port."
    INDEX   { lldpV2RemTimeMark,
              lldpV2RemLocalIfIndex,
              lldpV2RemLocalDestMACAddress,
              lldpV2RemIndex,
              lldpV2Xdot1RemVlanId }
    ::= { lldpV2Xdot1RemVlanNameTable 1 }

LldpV2Xdot1RemVlanNameEntry ::= SEQUENCE {
            lldpV2Xdot1RemVlanId       VlanId,
            lldpV2Xdot1RemVlanName     SnmpAdminString
}


lldpV2Xdot1RemVlanId  OBJECT-TYPE
    SYNTAX      VlanId
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "The integer value used to identify the IEEE 802.1Q
            VLAN IDs with which the given port of the remote system
            is compatible."
    REFERENCE
            "D.2.3.2"
    ::= { lldpV2Xdot1RemVlanNameEntry 1 }

lldpV2Xdot1RemVlanName  OBJECT-TYPE
    SYNTAX      SnmpAdminString (SIZE(1..32))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The string value used to identify VLAN name identified
            by the VLAN Id associated with the remote system."
    REFERENCE
            "D.2.3.4"
    ::= { lldpV2Xdot1RemVlanNameEntry 2 }



--
-- lldpV2Xdot1RemProtocolTable : Protocol information of the remote
-- systems Re-indexed by ifIndex and destination MAC address
--

lldpV2Xdot1RemProtocolTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1RemProtocolEntry
    MAX-ACCESS  not-accessible
```

```
    STATUS      current
    DESCRIPTION
            "This table contains one or more rows per protocol
            information about the remote system, received on
            the given port."
    ::= { lldpV2Xdot1RemoteData 4 }

lldpV2Xdot1RemProtocolEntry  OBJECT-TYPE
    SYNTAX      LldpV2Xdot1RemProtocolEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Protocol information about a particular port component.
            There may be multiple protocols, identified by a particular
            lldpV2Xdot1ProtocolIndex, received on the given port."
    INDEX   { lldpV2RemTimeMark,
              lldpV2RemLocalIfIndex,
              lldpV2RemLocalDestMACAddress,
              lldpV2RemIndex,
              lldpV2Xdot1RemProtocolIndex }
    ::= { lldpV2Xdot1RemProtocolTable 1 }

LldpV2Xdot1RemProtocolEntry ::= SEQUENCE {
            lldpV2Xdot1RemProtocolIndex     Unsigned32,
            lldpV2Xdot1RemProtocolId        OCTET STRING
}

lldpV2Xdot1RemProtocolIndex  OBJECT-TYPE
    SYNTAX      Unsigned32(1..2147483647)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This object represents an arbitrary local integer value
            used by this agent to identify a particular protocol
            identity."
    ::= { lldpV2Xdot1RemProtocolEntry 1 }

lldpV2Xdot1RemProtocolId  OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE (1..255))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The octet string value used to identify the protocols
            associated with the given port of remote system."
    REFERENCE
            "D.2.4.3"
    ::= { lldpV2Xdot1RemProtocolEntry 2 }



--
-- lldpV2Xdot1RemVidUsageDigestTable: Table of hash values of
-- system VID Usage Table received
-- via VID Usage Digest TLV.
```

```
--


lldpV2Xdot1RemVidUsageDigestTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1RemVidUsageDigestEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one row per ifIndex/
            destination MAC address pair for usage digest
            information received by the local system."
    REFERENCE
            "D.2.5"
    ::= { lldpV2Xdot1RemoteData 5 }

lldpV2Xdot1RemVidUsageDigestEntry  OBJECT-TYPE
    SYNTAX      LldpV2Xdot1RemVidUsageDigestEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Usage digest information received on
            the given port/destination address pair."
    REFERENCE
            "D.2.5"
    INDEX   { lldpV2RemTimeMark,
              lldpV2RemLocalIfIndex,
              lldpV2RemLocalDestMACAddress }
    ::= { lldpV2Xdot1RemVidUsageDigestTable 1 }

LldpV2Xdot1RemVidUsageDigestEntry ::= SEQUENCE {
      lldpV2Xdot1RemVidUsageDigest  Unsigned32
}


lldpV2Xdot1RemVidUsageDigest OBJECT-TYPE
    SYNTAX Unsigned32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The integer value obtained by applying the CRC32 function
        to the 128-octet VID Usage Table. A bit of the VID Usage
        Table contains the value PBB-TE-USAGE (binary 1) if the
        corresponding element of the MST Configuration Table
        (IEEE Std 802.1Q 8.9.1) contains the value PBB-TE MSTID
        (hex FFE)and otherwise contains the value NON-PBB-TE-USAGE
        (binary 0)."
    REFERENCE
        "D.2.5.1"
::= { lldpV2Xdot1RemVidUsageDigestEntry 1 }

--
-- lldpV2Xdot1RemManVidTable: Table of values configured on remote
-- systems for the Management VID, or the value 0 if a Management
-- VID has not been provisioned.
```

```
--

lldpV2Xdot1RemManVidTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1RemManVidEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one row per ifIndex/
            destination MAC address pair for management VID
            information received from remote systems."
    REFERENCE
            "D.2.6"
    ::= { lldpV2Xdot1RemoteData 6 }

lldpV2Xdot1RemManVidEntry  OBJECT-TYPE
    SYNTAX      LldpV2Xdot1RemManVidEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Management VID information received
            through the given port/destination address pair."
    REFERENCE
            "D.2.6"
    INDEX   { lldpV2RemTimeMark,
              lldpV2RemLocalIfIndex,
              lldpV2RemLocalDestMACAddress }
    ::= { lldpV2Xdot1RemManVidTable 1 }

LldpV2Xdot1RemManVidEntry ::= SEQUENCE {
      lldpV2Xdot1RemManVid            Unsigned32
}

lldpV2Xdot1RemManVid OBJECT-TYPE
    SYNTAX Unsigned32 (0|1..4094)
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The integer value configured on a system for
        the Management VID, or
        the value 0 if a Management VID has not been provisioned."
    REFERENCE
        "D.2.6.1"
::= { lldpV2Xdot1RemManVidEntry 1 }



-----------------------------------------------------------------------
-- Remote System Information - Link Aggregation
-----------------------------------------------------------------------

---
---
--- lldpV2Xdot1RemLinkAggTable: Link Aggregation Information Table
---
```

```
---
lldpV2Xdot1RemLinkAggTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1RemLinkAggEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains port link aggregation information
            (as a part of the LLDP IEEE 802.1 organizational extension)
            of the remote system."
    ::= { lldpV2Xdot1RemoteData 7 }

lldpV2Xdot1RemLinkAggEntry OBJECT-TYPE
    SYNTAX      LldpV2Xdot1RemLinkAggEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Link Aggregation information about remote system's port
            component."
    INDEX   { lldpV2RemTimeMark,
              lldpV2RemLocalIfIndex,
              lldpV2RemLocalDestMACAddress,
              lldpV2RemIndex }
    ::= { lldpV2Xdot1RemLinkAggTable 1 }

LldpV2Xdot1RemLinkAggEntry ::= SEQUENCE {
            lldpV2Xdot1RemLinkAggStatus        LldpV2LinkAggStatusMap,
            lldpV2Xdot1RemLinkAggPortId        Unsigned32
}

lldpV2Xdot1RemLinkAggStatus OBJECT-TYPE
    SYNTAX      LldpV2LinkAggStatusMap
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The bitmap value contains the link aggregation capabilities
            and the current aggregation status of the link."
    REFERENCE
            "D.2.7.1"
    ::= { lldpV2Xdot1RemLinkAggEntry 1 }

lldpV2Xdot1RemLinkAggPortId OBJECT-TYPE
    SYNTAX      Unsigned32(0|1..2147483647)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "This object contains the IEEE 802.1 aggregated port
            identifier, aAggPortID (IEEE Std 802.1AX, 6.3.2.1.1),
            derived from the ifNumber of the  ifIndex for the port
            component associated with the remote system.

            If the remote port is not in link aggregation state and/or
            it does not support link aggregation, this value should be
            zero."
    REFERENCE
```

```
            "D.2.7.1"
    ::= { lldpV2Xdot1RemLinkAggEntry 2 }


-- ------------------------------------------------------------------------
-- Conformance Information for the basicSet TLV set
-- ------------------------------------------------------------------------

lldpV2Xdot1Conformance
    OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 2 }
lldpV2Xdot1Compliances
    OBJECT IDENTIFIER ::= { lldpV2Xdot1Conformance 1 }
lldpV2Xdot1Groups
    OBJECT IDENTIFIER ::= { lldpV2Xdot1Conformance 2 }

-- compliance statements


lldpV2Xdot1TxRxCompliance MODULE-COMPLIANCE
    STATUS  current
    DESCRIPTION
            "A compliance statement for SNMP entities that implement
            the IEEE 802.1 organizationally defined LLDP extension MIB.

            This group is mandatory for all agents that implement the
            LLDP 802.1 organizational extension in TX and/or RX mode
            for the basicSet TLV set.

            This version defines compliance requirements for
            V2 of the LLDP MIB."
    MODULE  -- this module
        MANDATORY-GROUPS { lldpV2Xdot1ConfigGroup,
                           ifGeneralInformationGroup
        }
    ::= { lldpV2Xdot1Compliances 1 }


lldpV2Xdot1TxCompliance MODULE-COMPLIANCE
    STATUS  current
    DESCRIPTION
            "A compliance statement for SNMP entities that implement
            the IEEE 802.1 organizationally defined LLDP extension MIB.

            This group is mandatory for agents that implement the
            LLDP 802.1 organizational extension in the RX mode
            for the basicSet TLV set.

            This version defines compliance requirements for
            V2 of the LLDP MIB."
    MODULE  -- this module
        MANDATORY-GROUPS { lldpV2Xdot1LocSysGroup }

    ::= { lldpV2Xdot1Compliances 2 }
```

```
lldpV2Xdot1RxCompliance MODULE-COMPLIANCE
    STATUS  current
    DESCRIPTION
            "A compliance statement for SNMP entities that implement
            the IEEE 802.1 organizationally defined LLDP extension MIB.

            This group is mandatory for agents that implement the
            LLDP 802.1 organizational extension in the RX mode
            for the basicSet TLV set.

            This version defines compliance requirements for
            V2 of the LLDP MIB."
    MODULE  -- this module
        MANDATORY-GROUPS { lldpV2Xdot1RemSysGroup }

    ::= { lldpV2Xdot1Compliances 3 }

-- MIB groupings for the basicSet TLV set

lldpV2Xdot1ConfigGroup    OBJECT-GROUP
    OBJECTS {
        lldpV2Xdot1ConfigPortVlanTxEnable,
        lldpV2Xdot1ConfigVlanNameTxEnable,
        lldpV2Xdot1ConfigProtoVlanTxEnable,
        lldpV2Xdot1ConfigProtocolTxEnable,
        lldpV2Xdot1ConfigVidUsageDigestTxEnable,
        lldpV2Xdot1ConfigManVidTxEnable
    }
    STATUS  current
    DESCRIPTION
            "The collection of objects which are used to configure the
            IEEE 802.1 organizationally defined LLDP extension
            implementation behavior for the basicSet TLV set."
    ::= { lldpV2Xdot1Groups 1 }

lldpV2Xdot1LocSysGroup  OBJECT-GROUP
    OBJECTS {
        lldpV2Xdot1LocPortVlanId,
        lldpV2Xdot1LocProtoVlanSupported,
        lldpV2Xdot1LocProtoVlanEnabled,
        lldpV2Xdot1LocVlanName,
        lldpV2Xdot1LocProtocolId,
        lldpV2Xdot1LocVidUsageDigest,
        lldpV2Xdot1LocManVid,
        lldpV2Xdot1LocLinkAggStatus,
        lldpV2Xdot1LocLinkAggPortId
    }
    STATUS  current
    DESCRIPTION
            "The collection of objects which are used to represent
            IEEE 802.1 organizationally defined LLDP extension
            associated with the Local Device Information for the
            basicSet TLV set."
    ::= { lldpV2Xdot1Groups 2 }
```

```
lldpV2Xdot1RemSysGroup  OBJECT-GROUP
    OBJECTS {
        lldpV2Xdot1RemPortVlanId,
        lldpV2Xdot1RemProtoVlanSupported,
        lldpV2Xdot1RemProtoVlanEnabled,
        lldpV2Xdot1RemVlanName,
        lldpV2Xdot1RemProtocolId,
        lldpV2Xdot1RemVidUsageDigest,
        lldpV2Xdot1RemManVid,
        lldpV2Xdot1RemLinkAggStatus,
        lldpV2Xdot1RemLinkAggPortId
    }
    STATUS  current
    DESCRIPTION
            "The collection of objects which are used to represent LLDP
            802.1 organizational extension Remote Device Information
            for the basicSet TLV set."
    ::= { lldpV2Xdot1Groups 3 }

-----------------------------------------------------------------------
-----------------------------------------------------------------------
--
-- Organizationally Defined Information Extension - IEEE 802.1
-- Definitions to support the cnSet TLV set (Table D-1)
-- for Congestion Notification
--
-----------------------------------------------------------------------
-----------------------------------------------------------------------

lldpXdot1CnMIB OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 3 }
lldpXdot1CnObjects OBJECT IDENTIFIER ::= { lldpXdot1CnMIB 1 }

-- CN 802.1 MIB Extension groups

lldpXdot1CnConfig OBJECT IDENTIFIER ::= { lldpXdot1CnObjects 1 }
lldpXdot1CnLocalData OBJECT IDENTIFIER ::= { lldpXdot1CnObjects 2 }
lldpXdot1CnRemoteData OBJECT IDENTIFIER ::= { lldpXdot1CnObjects 3 }

-----------------------------------------------------------------
-- Textual conventions for Congestion Notification
-----------------------------------------------------------------

LldpV2CnBitVector ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
            "This TC describes a bit vector used in the Congestion
            Notification objects. Each bit represents a Boolean status
            associated with a priority code point. A bit value of 0
            represents FALSE, 1 represents TRUE.

            The bit 'pri0status(0)' indicates the status for priority 0
            The bit 'pri1status(1)' indicates the status for priority 1
            The bit 'pri2status(2)' indicates the status for priority 2
```

```
            The bit 'pri3status(3)' indicates the status for priority 3
            The bit 'pri4status(4)' indicates the status for priority 4
            The bit 'pri5status(5)' indicates the status for priority 5
            The bit 'pri6status(6)' indicates the status for priority 6
            The bit 'pri7status(7)' indicates the status for priority 7"

    SYNTAX  BITS {
            pri0status(0),
            pri1status(1),
            pri2status(2),
            pri3status(3),
            pri4status(4),
            pri5status(5),
            pri6status(6),
            pri7status(7)
    }

-------------------------------------------------------------------
-- IEEE 802.1 - Congestion Notification Configuration
-------------------------------------------------------------------

--
--  lldpXdot1CnConfigCnTable : configure the
--  transmission of the Congestion Notification TLV on a set of ports
--

lldpXdot1CnConfigCnTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1CnConfigCnEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "A table that controls selection of Congestion Notification
         TLVs to be transmitted on individual ports."
    ::= { lldpXdot1CnConfig 1 }

lldpXdot1CnConfigCnEntry OBJECT-TYPE
    SYNTAX        LldpXdot1CnConfigCnEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "LLDP configuration information that controls the
        transmission of IEEE 802.1 organizationally defined
        Congestion Notification TLV on LLDP transmission capable ports.

        This configuration object augments the lldpV2PortConfigEntry of
        the LLDP-MIB, therefore it is only present along with the port
        configuration defined by the associated lldpV2PortConfigEntry
        entry.

        Each active lldpConfigEntry is restored from non-volatile
        storage (along with the corresponding lldpV2PortConfigEntry)
        after a re-initialization of the management system."
    AUGMENTS      { lldpV2PortConfigEntry }
    ::= { lldpXdot1CnConfigCnTable 1 }
```

```
LldpXdot1CnConfigCnEntry ::= SEQUENCE {
    lldpXdot1CnConfigCnTxEnable TruthValue
}

lldpXdot1CnConfigCnTxEnable OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "The lldpXdot1CnConfigCnTxEnable, which is
        defined as a truth value and configured by the network
        management, determines whether the IEEE 802.1 organizationally
        defined Congestion Notification TLV transmission is allowed
        on a given LLDP transmission capable port.

        The value of this object is restored from non-volatile
        storage after a re-initialization of the management system."
    REFERENCE
        "D.2.8"
    DEFVAL         { false }
    ::= { lldpXdot1CnConfigCnEntry 1 }

-----------------------------------------------------------------------
-- IEEE 802.1 - Congestion Notification Local System Information
-----------------------------------------------------------------------

---
---
--- lldpV2Xdot1LocCnTable: Port Extension Information Table
---
---
lldpV2Xdot1LocCnTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1LocCnEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains one row per port of Congestion
            Notification information (as a part of the LLDP
            802.1 organizational extension) on the local system
            known to this agent."
    ::= { lldpXdot1CnLocalData 1 }

lldpV2Xdot1LocCnEntry OBJECT-TYPE
    SYNTAX      LldpV2Xdot1LocCnEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Congestion Notification information about a
            particular port component."
    INDEX   { lldpV2LocPortIfIndex }
    ::= { lldpV2Xdot1LocCnTable 1 }

LldpV2Xdot1LocCnEntry ::= SEQUENCE {
```

```
      lldpV2Xdot1LocCNPVIndicators    LldpV2CnBitVector,
      lldpV2Xdot1LocReadyIndicators   LldpV2CnBitVector
}

lldpV2Xdot1LocCNPVIndicators OBJECT-TYPE
    SYNTAX      LldpV2CnBitVector
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "This object contains the CNPV indicators
            for the Port."
    REFERENCE
            "D.2.8.3"
    ::= { lldpV2Xdot1LocCnEntry 1 }

lldpV2Xdot1LocReadyIndicators OBJECT-TYPE
    SYNTAX      LldpV2CnBitVector
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "This object contains the Ready indicators
            for the Port."
    REFERENCE
            "D.2.8.4"
    ::= { lldpV2Xdot1LocCnEntry 2 }

--------------------------------------------------------------------------
-- IEEE 802.1 - Congestion Notification Remote System Information
--------------------------------------------------------------------------

---
---
--- lldpV2Xdot1RemCnTable: Port Extension Information Table
---
---
lldpV2Xdot1RemCnTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF LldpV2Xdot1RemCnEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "This table contains Congestion Notification information
            (as a part of the LLDP IEEE 802.1 organizational extension)
            of the remote system."
    ::= { lldpXdot1CnRemoteData 1 }

lldpV2Xdot1RemCnEntry OBJECT-TYPE
    SYNTAX      LldpV2Xdot1RemCnEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Port Extension information about remote systems port
            component."
    INDEX   { lldpV2RemTimeMark,
              lldpV2RemLocalIfIndex,
```

```
                lldpV2RemLocalDestMACAddress,
                lldpV2RemIndex }
    ::= { lldpV2Xdot1RemCnTable 1 }

LldpV2Xdot1RemCnEntry ::= SEQUENCE {
      lldpV2Xdot1RemCNPVIndicators    LldpV2CnBitVector,
      lldpV2Xdot1RemReadyIndicators   LldpV2CnBitVector
}

lldpV2Xdot1RemCNPVIndicators OBJECT-TYPE
    SYNTAX      LldpV2CnBitVector
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "This object contains the CNPV indicators
            for the Port."
    REFERENCE
            "D.2.8.3"
    ::= { lldpV2Xdot1RemCnEntry 1 }

lldpV2Xdot1RemReadyIndicators OBJECT-TYPE
    SYNTAX      LldpV2CnBitVector
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "This object contains the Ready indicators
            for the Port."
    REFERENCE
            "D.2.8.4"
    ::= { lldpV2Xdot1RemCnEntry 2 }

-- ------------------------------------------------------------------------
-- IEEE 802.1 - Congestion Notification Conformance Information
-- ------------------------------------------------------------------------

lldpXdot1CnConformance OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 4 }

lldpXdot1CnCompliances
    OBJECT IDENTIFIER ::= { lldpXdot1CnConformance 1 }
lldpXdot1CnGroups OBJECT IDENTIFIER ::= { lldpXdot1CnConformance 2 }

--
-- Congestion Notification - Compliance Statements
--

lldpXdot1CnCompliance MODULE-COMPLIANCE
    STATUS        current
    DESCRIPTION
         "A compliance statement for SNMP entities that implement
         the IEEE 802.1 organizationally defined Congestion
         Notification LLDP extension MIB.

         This group is mandatory for agents that implement the
         Congestion Notification cnSet TLV set."
```

```
    MODULE        -- this module
        MANDATORY-GROUPS  { lldpXdot1CnGroup,
                            ifGeneralInformationGroup }
    ::= { lldpXdot1CnCompliances 1 }


--
-- Congestion Notification - MIB groupings
--

lldpXdot1CnGroup  OBJECT-GROUP
    OBJECTS {
        lldpXdot1CnConfigCnTxEnable,
        lldpV2Xdot1LocCNPVIndicators,
        lldpV2Xdot1LocReadyIndicators,
        lldpV2Xdot1RemCNPVIndicators,
        lldpV2Xdot1RemReadyIndicators
    }
    STATUS  current
    DESCRIPTION
        "The collection of objects that support the
        Congestion Notification cnSet TLV set."
    ::= { lldpXdot1CnGroups 1 }

-----------------------------------------------------------------------
-----------------------------------------------------------------------
--
-- Organizationally Defined Information Extension - IEEE 802.1
-- Definitions to support the Data Center eXchange Protocol
-- (DCBX) TLV set (Table D-1)
--
-----------------------------------------------------------------------
-----------------------------------------------------------------------
lldpXdot1dcbxMIB OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 5 }
lldpXdot1dcbxObjects       OBJECT IDENTIFIER ::= { lldpXdot1dcbxMIB 1 }

-- DCBX 802.1 MIB Extension groups

lldpXdot1dcbxConfig     OBJECT IDENTIFIER ::= { lldpXdot1dcbxObjects 1 }
lldpXdot1dcbxLocalData  OBJECT IDENTIFIER ::= { lldpXdot1dcbxObjects 2 }
lldpXdot1dcbxRemoteData OBJECT IDENTIFIER ::= { lldpXdot1dcbxObjects 3 }
lldpXdot1dcbxAdminData  OBJECT IDENTIFIER ::= { lldpXdot1dcbxObjects 4 }

-----------------------------------------------------------------
-- IEEE 802.1 - DCBX Textual Conventions
-----------------------------------------------------------------

LldpXdot1dcbxTrafficClassValue ::= TEXTUAL-CONVENTION
    DISPLAY-HINT "d"
    STATUS    current
    DESCRIPTION
        "Indicates a traffic class.  Values 0-7 correspond to
        traffic classes."
    SYNTAX    Unsigned32 (0..7)
```

```
LldpXdot1dcbxTrafficClassBandwidthValue ::= TEXTUAL-CONVENTION
    DISPLAY-HINT "d"
    STATUS    current
    DESCRIPTION
        "Indicates the bandwidth in percent assigned to a
        traffic class."
    SYNTAX    Unsigned32 (0..100)

LldpXdot1dcbxAppSelector ::= TEXTUAL-CONVENTION
    STATUS    current
    DESCRIPTION
        "Indicates the contents of a protocol object
        1: Ethertype
        2: Well Known Port number over TCP, or SCTP
        3: Well Known Port number over UDP, or DCCP
        4: Well Known Port number over TCP, SCTP, UDP, and DCCP"
    SYNTAX INTEGER {
        asEthertype(1),
        asTCPPortNumber(2),
        asUDPPortNumber(3),
        asTCPUDPPortNumber(4)
    }

 LldpXdot1dcbxAppProtocol ::= TEXTUAL-CONVENTION
     DISPLAY-HINT "d"
     STATUS        current
     DESCRIPTION
         "Contains the application protocol indicator the
         type of which is specified by an object with
         the syntax of
         LldpXdot1dcbxAppSelector"
     SYNTAX Unsigned32 (0..65535)

LldpXdot1dcbxSupportedCapacity ::= TEXTUAL-CONVENTION
    DISPLAY-HINT "d"
    STATUS    current
    DESCRIPTION
        "Indicates the supported capacity of a given feature,
        for example, the number of traffic classes supported.
        This TC is used for features that have a maximum
        capacity of eight and a minimum of one."
    SYNTAX Unsigned32 (1..8)

LldpXdot1dcbxTrafficSelectionAlgorithm ::= TEXTUAL-CONVENTION
    STATUS    current
    DESCRIPTION
        "Indicates the Traffic Selection Algorithm
        0: Strict Priority
        1: Credit-based shaper
        2: Enhanced transmission selection
        3-254: Reserved for furture standardization
        255: Vendor specific"
    SYNTAX INTEGER {
```

```
        tsaStrictPriority(0),
        tsaCreditBasedShaper(1),
        tsaEnhancedTransmission(2),
        tsaVendorSpecific(255)
    }

-- ------------------------------------------------------------------
-- IEEE 802.1 - DCBX Configuration
-- ------------------------------------------------------------------

--
--  lldpXdot1dcbxConfigETSConfigurationTable : configure the
--  transmission of the ETS Configuration TLV on a set of ports
--

lldpXdot1dcbxConfigETSConfigurationTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1dcbxConfigETSConfigurationEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "A table that controls selection of ETS Configuration
         TLVs to be transmitted on individual ports."
    ::= { lldpXdot1dcbxConfig 1 }

lldpXdot1dcbxConfigETSConfigurationEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxConfigETSConfigurationEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "LLDP configuration information that controls the
        transmission of IEEE 802.1 organizationally defined
        ETS Configuration TLV on LLDP transmission capable ports.

        This configuration object augments the lldpV2PortConfigEntry of
        the LLDP-MIB, therefore it is only present along with the port
        configuration defined by the associated lldpV2PortConfigEntry
        entry.

        Each active lldpConfigEntry is restored from non-volatile
        storage (along with the corresponding lldpV2PortConfigEntry)
        after a re-initialization of the management system."
    AUGMENTS      { lldpV2PortConfigEntry }
    ::= { lldpXdot1dcbxConfigETSConfigurationTable 1 }

LldpXdot1dcbxConfigETSConfigurationEntry ::= SEQUENCE {
    lldpXdot1dcbxConfigETSConfigurationTxEnable TruthValue
}

lldpXdot1dcbxConfigETSConfigurationTxEnable OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "The lldpXdot1dcbxConfigETSConfigurationTxEnable, which is
```

```
        defined as a truth value and configured by the network
        management, determines whether the IEEE 802.1 organizationally
        defined ETS Configuration TLV transmission is allowed on a
        given LLDP transmission capable port.

        The value of this object is restored from non-volatile
        storage after a re-initialization of the management system."
    REFERENCE
        "D.2.9"
    DEFVAL         { false }
    ::= { lldpXdot1dcbxConfigETSConfigurationEntry 1 }

--
--  lldpXdot1dcbxConfigETSRecommendationTable : configure the
--  transmission of the ETS Recommendation TLV on a set of ports
--

lldpXdot1dcbxConfigETSRecommendationTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1dcbxConfigETSRecommendationEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "A table that controls selection of ETS Recommendation
        TLVs to be transmitted on individual ports."
    ::= { lldpXdot1dcbxConfig 2 }

lldpXdot1dcbxConfigETSRecommendationEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxConfigETSRecommendationEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "LLDP configuration information that controls the
        transmission of IEEE 802.1 organizationally defined
        ETS Recommendation TLV on LLDP transmission capable ports.

        This configuration object augments the lldpV2PortConfigEntry of
        the LLDP-MIB, therefore it is only present along with the port
        configuration defined by the associated lldpV2PortConfigEntry
        entry.

        Each active lldpConfigEntry is restored from non-volatile
        storage (along with the corresponding lldpV2PortConfigEntry)
        after a re-initialization of the management system."
    AUGMENTS     { lldpV2PortConfigEntry }
    ::= { lldpXdot1dcbxConfigETSRecommendationTable 1 }

LldpXdot1dcbxConfigETSRecommendationEntry ::= SEQUENCE {
    lldpXdot1dcbxConfigETSRecommendationTxEnable TruthValue
}

lldpXdot1dcbxConfigETSRecommendationTxEnable OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
```

```
    DESCRIPTION
        "The lldpXdot1dcbxConfigETSRecommendationTxEnable, which is
        defined as a truth value and configured by the network
        management, determines whether the IEEE 802.1 organizationally
        defined ETS Recommendation TLV transmission is allowed on a
        given LLDP transmission capable port.

        The value of this object is restored from non-volatile
        storage after a re-initialization of the management system."
    REFERENCE
        "D.2.10"
    DEFVAL         { false }
    ::= { lldpXdot1dcbxConfigETSRecommendationEntry 1 }
--
--  lldpXdot1dcbxConfigPFCTable : configure the transmission of the
--  Priority-based Flow Control TLV on a set of ports
--

lldpXdot1dcbxConfigPFCTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1dcbxConfigPFCEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "A table that controls selection of Priority-based
        Flow Control TLVs to be transmitted on individual ports."
    ::= { lldpXdot1dcbxConfig 3 }

lldpXdot1dcbxConfigPFCEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxConfigPFCEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "LLDP configuration information that controls the
        transmission of IEEE 802.1 organizationally defined
        Priority-based Flow Control TLV on LLDP transmission
        capable ports.

        This configuration object augments the lldpV2PortConfigEntry of
        the LLDP-MIB, therefore it is only present along with the port
        configuration defined by the associated lldpV2PortConfigEntry
        entry.

        Each active lldpConfigEntry is restored from non-volatile
        storage (along with the corresponding lldpV2PortConfigEntry)
        after a re-initialization of the management system."
    AUGMENTS     { lldpV2PortConfigEntry }
    ::= { lldpXdot1dcbxConfigPFCTable 1 }

LldpXdot1dcbxConfigPFCEntry ::= SEQUENCE {
    lldpXdot1dcbxConfigPFCTxEnable TruthValue
}

lldpXdot1dcbxConfigPFCTxEnable OBJECT-TYPE
    SYNTAX        TruthValue
```

```
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "The lldpXdot1dcbxConfigPFCTxEnable, which is defined
        as a truth value and configured by the network management,
        determines whether the IEEE 802.1 organizationally defined
        Priority-based Flow Control TLV transmission is allowed on
        a given LLDP transmission capable port.

        The value of this object is restored from non-volatile
        storage after a re-initialization of the management system."
    REFERENCE
        "D.2.11"
    DEFVAL         { false }
    ::= { lldpXdot1dcbxConfigPFCEntry 1 }

--
--  lldpXdot1dcbxConfigApplicationPriorityTable : configure the
--  transmission of the Application Priority TLV on a set of ports
--

lldpXdot1dcbxConfigApplicationPriorityTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxConfigApplicationPriorityEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "A table that controls selection of Priority-based
        Flow Control TLVs to be transmitted on individual ports."
    ::= { lldpXdot1dcbxConfig 4 }

lldpXdot1dcbxConfigApplicationPriorityEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxConfigApplicationPriorityEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "LLDP configuration information that controls the
        transmission of IEEE 802.1 organizationally defined
        Application Priority TLV on LLDP transmission capable ports.

        This configuration object augments the lldpV2PortConfigEntry of
        the LLDP-MIB, therefore it is only present along with the port
        configuration defined by the associated lldpV2PortConfigEntry
        entry.

        Each active lldpConfigEntry is restored from non-volatile
        storage (along with the corresponding lldpV2PortConfigEntry)
        after a re-initialization of the management system."
    AUGMENTS     { lldpV2PortConfigEntry }
    ::= { lldpXdot1dcbxConfigApplicationPriorityTable 1 }

LldpXdot1dcbxConfigApplicationPriorityEntry ::= SEQUENCE {
    lldpXdot1dcbxConfigApplicationPriorityTxEnable TruthValue
}
```

```
lldpXdot1dcbxConfigApplicationPriorityTxEnable OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "The lldpXdot1dcbxConfigApplicationPriorityTxEnable, which
        is defined as a truth value and configured by the network
        management, determines whether the IEEE 802.1 organizationally
        defined Application Priority TLV transmission is allowed on
        a given LLDP transmission capable port.

        The value of this object is restored from non-volatile
        storage after a re-initialization of the management system."
    REFERENCE
        "D.2.12"
    DEFVAL         { false }
    ::= { lldpXdot1dcbxConfigApplicationPriorityEntry 1 }

--------------------------------------------------------------------------
-- IEEE 802.1 - DCBX Local System Information
--------------------------------------------------------------------------

--
-- lldpXdot1dcbxLocETSConfigurationTable - Contains the information
-- for the ETS Configuration TLV.
--
lldpXdot1dcbxLocETSConfiguration OBJECT IDENTIFIER
    ::= { lldpXdot1dcbxLocalData 1 }

lldpXdot1dcbxLocETSBasicConfigurationTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1dcbxLocETSBasicConfigurationEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per port for the IEEE 802.1
        organizationally defined LLDP ETS Configuration TLV on
        the local system known to this agent"
    ::= { lldpXdot1dcbxLocETSConfiguration 1 }

lldpXdot1dcbxLocETSBasicConfigurationEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxLocETSBasicConfigurationEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Information about the IEEE 802.1 organizational defined
        ETS Configuration TLV LLDP extension."
    INDEX         { lldpV2LocPortIfIndex }
    ::= { lldpXdot1dcbxLocETSBasicConfigurationTable 1 }

LldpXdot1dcbxLocETSBasicConfigurationEntry ::= SEQUENCE {
    lldpXdot1dcbxLocETSConCreditBasedShaperSupport TruthValue,
    lldpXdot1dcbxLocETSConTrafficClassesSupported
        LldpXdot1dcbxSupportedCapacity,
```

```
    lldpXdot1dcbxLocETSConWilling    TruthValue
}

lldpXdot1dcbxLocETSConCreditBasedShaperSupport OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates if the credit-based shaper Traffic Selection
        Algorithm is supported on the local system."
    REFERENCE
        "D.2.9.4"
    ::= { lldpXdot1dcbxLocETSBasicConfigurationEntry 1 }

lldpXdot1dcbxLocETSConTrafficClassesSupported OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxSupportedCapacity
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the number of traffic classes supported."
    REFERENCE
        "D.2.9.5"
    ::= { lldpXdot1dcbxLocETSBasicConfigurationEntry 2 }

lldpXdot1dcbxLocETSConWilling OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates if the local system is willing to accept the
        ETS configuration recommended by the remote system."
    REFERENCE
        "D.2.9.3"
    ::= { lldpXdot1dcbxLocETSBasicConfigurationEntry 3 }

lldpXdot1dcbxLocETSConPriorityAssignmentTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxLocETSConPriorityAssignmentEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per priority.  The entry in each
        row indicates the traffic class to which the priority is
        assigned."
    ::= { lldpXdot1dcbxLocETSConfiguration 2 }

lldpXdot1dcbxLocETSConPriorityAssignmentEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxLocETSConPriorityAssignmentEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a priority to traffic class assignment."
    INDEX        {
                lldpV2LocPortIfIndex,
```



```
                lldpXdot1dcbxLocETSConPriority
    }
    ::= { lldpXdot1dcbxLocETSConPriorityAssignmentTable 1 }

LldpXdot1dcbxLocETSConPriorityAssignmentEntry ::= SEQUENCE {
    lldpXdot1dcbxLocETSConPriority      IEEE8021PriorityValue,
    lldpXdot1dcbxLocETSConPriTrafficClass
        LldpXdot1dcbxTrafficClassValue
}

lldpXdot1dcbxLocETSConPriority OBJECT-TYPE
    SYNTAX        IEEE8021PriorityValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the priority that is assigned to a traffic
        class."
    REFERENCE
        "D.2.9.6"
    ::= { lldpXdot1dcbxLocETSConPriorityAssignmentEntry 1 }

lldpXdot1dcbxLocETSConPriTrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class to which this priority is
        to be assigned."
    REFERENCE
        "D.2.9.6"
    ::= { lldpXdot1dcbxLocETSConPriorityAssignmentEntry 2 }

lldpXdot1dcbxLocETSConTrafficClassBandwidthTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxLocETSConTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per traffic class.  The
        entry in each row indicates the traffic class to
        which the bandwidth is assigned."
    ::= { lldpXdot1dcbxLocETSConfiguration 3 }

lldpXdot1dcbxLocETSConTrafficClassBandwidthEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxLocETSConTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a traffic class to Bandwidth assignment."
    INDEX        {
                lldpV2LocPortIfIndex,
                lldpXdot1dcbxLocETSConTrafficClass
    }
    ::= { lldpXdot1dcbxLocETSConTrafficClassBandwidthTable 1 }
```

```
LldpXdot1dcbxLocETSConTrafficClassBandwidthEntry ::= SEQUENCE {
    lldpXdot1dcbxLocETSConTrafficClass
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxLocETSConTrafficClassBandwidth
        LldpXdot1dcbxTrafficClassBandwidthValue
}

lldpXdot1dcbxLocETSConTrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class to
        which this bandwidth applies"
    REFERENCE
        "D.2.9.7"
    ::= { lldpXdot1dcbxLocETSConTrafficClassBandwidthEntry 1 }

lldpXdot1dcbxLocETSConTrafficClassBandwidth OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassBandwidthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the bandwidth assigned to this traffic class."
    REFERENCE
        "D.2.9.7"
    ::= { lldpXdot1dcbxLocETSConTrafficClassBandwidthEntry 2 }


lldpXdot1dcbxLocETSConTrafficSelectionAlgorithmTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxLocETSConTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per traffic class.  The entry
        in each row indicates the traffic selction algorithm to be
        used by the traffic class."
    ::= { lldpXdot1dcbxLocETSConfiguration 4 }

lldpXdot1dcbxLocETSConTrafficSelectionAlgorithmEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxLocETSConTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a traffic class to traffic selection algorithm
         assignment."
    INDEX        {
                 lldpV2LocPortIfIndex,
                 lldpXdot1dcbxLocETSConTSATrafficClass
    }
    ::= { lldpXdot1dcbxLocETSConTrafficSelectionAlgorithmTable 1 }
```

```
LldpXdot1dcbxLocETSConTrafficSelectionAlgorithmEntry ::= SEQUENCE {
    lldpXdot1dcbxLocETSConTSATrafficClass
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxLocETSConTrafficSelectionAlgorithm
        LldpXdot1dcbxTrafficSelectionAlgorithm
}

lldpXdot1dcbxLocETSConTSATrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class that is assigned to a traffic
        selection algorithm."
    REFERENCE
        "D.2.9.8"
    ::= { lldpXdot1dcbxLocETSConTrafficSelectionAlgorithmEntry 1 }

lldpXdot1dcbxLocETSConTrafficSelectionAlgorithm OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficSelectionAlgorithm
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the Traffic Selection Algorithm to which this
        traffic class is to be assigned."
    REFERENCE
        "D.2.9.8"
    ::= { lldpXdot1dcbxLocETSConTrafficSelectionAlgorithmEntry 2 }

--
-- lldpXdot1dcbxLocETSRecommendationTable - Contains the information for
-- the ETS Recommendation TLV.
--
lldpXdot1dcbxLocETSReco OBJECT IDENTIFIER ::=
  { lldpXdot1dcbxLocalData 2 }

lldpXdot1dcbxLocETSRecoTrafficClassBandwidthTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per traffic class.  The
        entry in each row indicates the traffic class to
        which the bandwidth is assigned."
    ::= { lldpXdot1dcbxLocETSReco 1 }

lldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a traffic class to Bandwidth assignment."
    INDEX        {
```

```
                lldpV2LocPortIfIndex,
                lldpXdot1dcbxLocETSRecoTrafficClass
    }
    ::= { lldpXdot1dcbxLocETSRecoTrafficClassBandwidthTable 1 }

LldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry ::= SEQUENCE {
    lldpXdot1dcbxLocETSRecoTrafficClass
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxLocETSRecoTrafficClassBandwidth
        LldpXdot1dcbxTrafficClassBandwidthValue
}

lldpXdot1dcbxLocETSRecoTrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class to
        which this bandwidth applies"
    REFERENCE
        "D.2.10.3"
    ::= { lldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry 1 }

lldpXdot1dcbxLocETSRecoTrafficClassBandwidth OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassBandwidthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the bandwidth assigned to this traffic class."
    REFERENCE
        "D.2.10.4"
    ::= { lldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry 2 }

lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per priority.  The entry in each
        row indicates the traffic selction algorithm to be used
        by the traffic class."
    ::= { lldpXdot1dcbxLocETSReco 2 }

lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a priority to traffic selection algorithm
         assignment."
    INDEX        {
                lldpV2LocPortIfIndex,
                lldpXdot1dcbxLocETSRecoTSATrafficClass
```

```
    }
    ::= { lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmTable 1 }

LldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry ::= SEQUENCE {
    lldpXdot1dcbxLocETSRecoTSATrafficClass
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithm
        LldpXdot1dcbxTrafficSelectionAlgorithm
}

lldpXdot1dcbxLocETSRecoTSATrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class that is assigned to a traffic
        selection algorithm."
    REFERENCE
        "D.2.10.5"
    ::= { lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry 1 }

lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithm OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficSelectionAlgorithm
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the Traffic Selection Algorithm to which this
        traffic class is to be assigned."
    REFERENCE
        "D.2.10.5"
    ::= { lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry 2 }

--
-- lldpXdot1dcbxLocPFCTable - Contains the information for the PFC
-- Configuration TLV.
--
lldpXdot1dcbxLocPFC OBJECT IDENTIFIER ::= { lldpXdot1dcbxLocalData 3 }

lldpXdot1dcbxLocPFCBasicTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1dcbxLocPFCBasicEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per port for the IEEE 802.1
        organizationally defined LLDP PFC TLV on the local
        system known to this agent"
    ::= { lldpXdot1dcbxLocPFC 1 }

lldpXdot1dcbxLocPFCBasicEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxLocPFCBasicEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Information about the IEEE 802.1 organizational defined
```

```
        PFC TLV LLDP extension."
    INDEX         { lldpV2LocPortIfIndex }
    ::= { lldpXdot1dcbxLocPFCBasicTable 1 }

LldpXdot1dcbxLocPFCBasicEntry ::= SEQUENCE {
    lldpXdot1dcbxLocPFCWilling    TruthValue,
    lldpXdot1dcbxLocPFCMBC           TruthValue,
    lldpXdot1dcbxLocPFCCap        LldpXdot1dcbxSupportedCapacity
}

lldpXdot1dcbxLocPFCWilling OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates if the local system is willing to accept the
        PFC configuration of the remote system."
    REFERENCE
        "D.2.11.3"
    ::= { lldpXdot1dcbxLocPFCBasicEntry 1}

lldpXdot1dcbxLocPFCMBC OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates if the local system is capable of bypassing
        MACsec processing when MACsec is disabled."
    REFERENCE
        "D.2.11.4"
    ::= { lldpXdot1dcbxLocPFCBasicEntry 2}

lldpXdot1dcbxLocPFCCap OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxSupportedCapacity
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the number of traffic classes on the local device
        that may simultaneously have PFC enabled."
    REFERENCE
        "D.2.11.5"
    ::= { lldpXdot1dcbxLocPFCBasicEntry 3}

lldpXdot1dcbxLocPFCEnableTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1dcbxLocPFCEnableEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains eight entries, one entry per priority,
        indicating if PFC is enabled on the corresponding priority."
    ::= { lldpXdot1dcbxLocPFC 2 }

lldpXdot1dcbxLocPFCEnableEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxLocPFCEnableEntry
```

```
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Each entry indicates if PFC is enabled on the
        correponding priority"
    INDEX {
        lldpV2LocPortIfIndex,
        lldpXdot1dcbxLocPFCEnablePriority
    }
    ::= { lldpXdot1dcbxLocPFCEnableTable 1 }

LldpXdot1dcbxLocPFCEnableEntry ::= SEQUENCE {
    lldpXdot1dcbxLocPFCEnablePriority   IEEE8021PriorityValue,
    lldpXdot1dcbxLocPFCEnableEnabled    TruthValue
}

lldpXdot1dcbxLocPFCEnablePriority OBJECT-TYPE
    SYNTAX        IEEE8021PriorityValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Prioity for which PFC is enabled / disabled"
    ::= { lldpXdot1dcbxLocPFCEnableEntry 1 }

lldpXdot1dcbxLocPFCEnableEnabled OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates if PFC is enabled on the corresponding priority"
    REFERENCE
        "D.2.11.6"
    ::= { lldpXdot1dcbxLocPFCEnableEntry 2 }
--
-- lldpXdot1dcbxLocApplicationPriorityTable - Contains the information
-- for the Application Priority TLV.
--

lldpXdot1dcbxLocApplicationPriorityAppTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxLocApplicationPriorityAppEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Table containing entries indicating the priorty to be used
        for a given application"
    ::= { lldpXdot1dcbxLocalData 4 }

lldpXdot1dcbxLocApplicationPriorityAppEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxLocApplicationPriorityAppEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Entry that indicates the priority to be used for a
```

```
        given application."
    INDEX         {
                  lldpV2LocPortIfIndex,
                  lldpXdot1dcbxLocApplicationPriorityAESelector,
                  lldpXdot1dcbxLocApplicationPriorityAEProtocol
    }
    ::= { lldpXdot1dcbxLocApplicationPriorityAppTable 1 }

LldpXdot1dcbxLocApplicationPriorityAppEntry ::= SEQUENCE {
    lldpXdot1dcbxLocApplicationPriorityAESelector
        LldpXdot1dcbxAppSelector,
    lldpXdot1dcbxLocApplicationPriorityAEProtocol
        LldpXdot1dcbxAppProtocol,
    lldpXdot1dcbxLocApplicationPriorityAEPriority
        IEEE8021PriorityValue
}

lldpXdot1dcbxLocApplicationPriorityAESelector OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxAppSelector
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the contents of the protocol object
        (lldpXdot1dcbxLocApplicationPriorityAEProtocol)
        1: Ethertype
        2: Well Known Port number over TCP, or SCTP
        3: Well Known Port number over UDP, or DCCP
        4: Well Known Port number over TCP, SCTP, UDP, and DCCP"
    REFERENCE
        "D.2.12.3"
    ::= { lldpXdot1dcbxLocApplicationPriorityAppEntry 1 }

lldpXdot1dcbxLocApplicationPriorityAEProtocol OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxAppProtocol
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "The protocol indicator of the type indicated by
        lldpXdot1dcbxLocApplicationPriorityAESelector."
    REFERENCE
        "D.2.12.3"
    ::= { lldpXdot1dcbxLocApplicationPriorityAppEntry 2 }

lldpXdot1dcbxLocApplicationPriorityAEPriority OBJECT-TYPE
    SYNTAX        IEEE8021PriorityValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The priority code point that should be used in
        frames transporting the protocol indicated by
        lldpXdot1dcbxLocApplicationPriorityAESelector and
        lldpXdot1dcbxLocApplicationPriorityAEProtocol"
    REFERENCE
        "D.2.12.3"
```

```
    ::= { lldpXdot1dcbxLocApplicationPriorityAppEntry 3 }


--------------------------------------------------------------------------
-- IEEE 802.1 - DCBX Remote System Information
--------------------------------------------------------------------------

--
-- lldpXdot1dcbxRemETSConfigurationTable - Contains the information
-- for the remote system ETS Configuration TLV.
--
lldpXdot1dcbxRemETSConfiguration OBJECT IDENTIFIER
    ::= { lldpXdot1dcbxRemoteData 1 }

lldpXdot1dcbxRemETSBasicConfigurationTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1dcbxRemETSBasicConfigurationEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per port for the IEEE 802.1
        organizationally defined LLDP ETS Configuration TLV on
        the local system known to this agent"
    ::= { lldpXdot1dcbxRemETSConfiguration 1 }

lldpXdot1dcbxRemETSBasicConfigurationEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxRemETSBasicConfigurationEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Information about the IEEE 802.1 organizational defined
        ETS Configuration TLV LLDP extension."
    INDEX         {
                  lldpV2RemTimeMark,
                  lldpV2RemLocalIfIndex,
                  lldpV2RemLocalDestMACAddress,
                  lldpV2RemIndex
    }
    ::= { lldpXdot1dcbxRemETSBasicConfigurationTable 1 }

LldpXdot1dcbxRemETSBasicConfigurationEntry ::= SEQUENCE {
    lldpXdot1dcbxRemETSConCreditBasedShaperSupport     TruthValue,
    lldpXdot1dcbxRemETSConTrafficClassesSupported
        LldpXdot1dcbxSupportedCapacity,
    lldpXdot1dcbxRemETSConWilling    TruthValue
}

lldpXdot1dcbxRemETSConCreditBasedShaperSupport OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates if the credit-based shaper Traffic Selection
        algorithm is supported on the remote system."
    REFERENCE
```

```
        "D.2.9.4"
    ::= { lldpXdot1dcbxRemETSBasicConfigurationEntry 1 }

lldpXdot1dcbxRemETSConTrafficClassesSupported OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxSupportedCapacity
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the number of traffic classes supported."
    REFERENCE
        "D.2.9.5"
    ::= { lldpXdot1dcbxRemETSBasicConfigurationEntry 2 }

lldpXdot1dcbxRemETSConWilling OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates if the remote system is willing to accept the
        ETS configuration recommended by the remote system."
    REFERENCE
        "D.2.9.3"
    ::= { lldpXdot1dcbxRemETSBasicConfigurationEntry 3 }

lldpXdot1dcbxRemETSConPriorityAssignmentTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxRemETSConPriorityAssignmentEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per priority.  The entry in
        each row indicates the traffic class to which the
        priority is assigned."
    ::= { lldpXdot1dcbxRemETSConfiguration 2 }

lldpXdot1dcbxRemETSConPriorityAssignmentEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxRemETSConPriorityAssignmentEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a priority to traffic class assignment."
    INDEX        {
                 lldpV2RemTimeMark,
                 lldpV2RemLocalIfIndex,
                 lldpV2RemLocalDestMACAddress,
                 lldpV2RemIndex,
                 lldpXdot1dcbxRemETSConPriority
    }
    ::= { lldpXdot1dcbxRemETSConPriorityAssignmentTable 1 }

LldpXdot1dcbxRemETSConPriorityAssignmentEntry ::= SEQUENCE {
    lldpXdot1dcbxRemETSConPriority      IEEE8021PriorityValue,
    lldpXdot1dcbxRemETSConPriTrafficClass
        LldpXdot1dcbxTrafficClassValue
```

```
}

lldpXdot1dcbxRemETSConPriority OBJECT-TYPE
    SYNTAX        IEEE8021PriorityValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the priority that is assigned to a traffic
        class."
    REFERENCE
        "D.2.9.6"
    ::= { lldpXdot1dcbxRemETSConPriorityAssignmentEntry 1 }

lldpXdot1dcbxRemETSConPriTrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class to which this priority is
        to be assigned."
    REFERENCE
        "D.2.9.6"
    ::= { lldpXdot1dcbxRemETSConPriorityAssignmentEntry 2 }

lldpXdot1dcbxRemETSConTrafficClassBandwidthTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxRemETSConTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per traffic class.  The
        entry in each row indicates the traffic class to
        which the bandwidth is assigned."
    ::= { lldpXdot1dcbxRemETSConfiguration 3 }

lldpXdot1dcbxRemETSConTrafficClassBandwidthEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxRemETSConTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a traffic class to Bandwidth assignment."
    INDEX        {
                 lldpV2RemTimeMark,
                 lldpV2RemLocalIfIndex,
                 lldpV2RemLocalDestMACAddress,
                 lldpV2RemIndex,
                 lldpXdot1dcbxRemETSConTrafficClass
    }
    ::= { lldpXdot1dcbxRemETSConTrafficClassBandwidthTable 1 }

LldpXdot1dcbxRemETSConTrafficClassBandwidthEntry ::= SEQUENCE {
    lldpXdot1dcbxRemETSConTrafficClass
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxRemETSConTrafficClassBandwidth
```

```
        LldpXdot1dcbxTrafficClassBandwidthValue
}

lldpXdot1dcbxRemETSConTrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class to
        which this bandwidth applies"
    REFERENCE
        "D.2.9.7"
    ::= { lldpXdot1dcbxRemETSConTrafficClassBandwidthEntry 1 }

lldpXdot1dcbxRemETSConTrafficClassBandwidth OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassBandwidthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the bandwidth assigned to this traffic class."
    REFERENCE
        "D.2.9.7"
    ::= { lldpXdot1dcbxRemETSConTrafficClassBandwidthEntry 2 }


lldpXdot1dcbxRemETSConTrafficSelectionAlgorithmTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxRemETSConTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per traffic class.  The
        entry in each row indicates the traffic selction
        algorithm to be used by the traffic class."
    ::= { lldpXdot1dcbxRemETSConfiguration 4 }

lldpXdot1dcbxRemETSConTrafficSelectionAlgorithmEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxRemETSConTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a traffic class to traffic selection
        algorithm assignment."
    INDEX       {
                lldpV2RemTimeMark,
                lldpV2RemLocalIfIndex,
                lldpV2RemLocalDestMACAddress,
                lldpV2RemIndex,
                lldpXdot1dcbxRemETSConTSATrafficClass
    }
    ::= { lldpXdot1dcbxRemETSConTrafficSelectionAlgorithmTable 1 }

LldpXdot1dcbxRemETSConTrafficSelectionAlgorithmEntry ::= SEQUENCE {
    lldpXdot1dcbxRemETSConTSATrafficClass
```

```
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxRemETSConTrafficSelectionAlgorithm
        LldpXdot1dcbxTrafficSelectionAlgorithm
}

lldpXdot1dcbxRemETSConTSATrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class that is assigned to a traffic
        selection algorithm."
    REFERENCE
        "D.2.9.8"
    ::= { lldpXdot1dcbxRemETSConTrafficSelectionAlgorithmEntry 1 }

lldpXdot1dcbxRemETSConTrafficSelectionAlgorithm OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficSelectionAlgorithm
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the Traffic Selection Algorithm to which this
        traffic class is to be assigned."
    REFERENCE
        "D.2.9.8"
    ::= { lldpXdot1dcbxRemETSConTrafficSelectionAlgorithmEntry 2 }

--
-- lldpXdot1dcbxRemETSRecommendationTable - Contains the information for
-- the remote system ETS Recommendation TLV.
--
lldpXdot1dcbxRemETSReco OBJECT IDENTIFIER ::=
  { lldpXdot1dcbxRemoteData 2 }

lldpXdot1dcbxRemETSRecoTrafficClassBandwidthTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per traffic class.  The
        entry in each row indicates the traffic class to
        which the bandwidth is assigned."
    ::= { lldpXdot1dcbxRemETSReco 1 }

lldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a traffic class to Bandwidth assignment."
    INDEX        {
                 lldpV2RemTimeMark,
                 lldpV2RemLocalIfIndex,
```

```
                lldpV2RemLocalDestMACAddress,
                lldpV2RemIndex,
                lldpXdot1dcbxRemETSRecoTrafficClass
    }
    ::= { lldpXdot1dcbxRemETSRecoTrafficClassBandwidthTable 1 }

LldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry ::= SEQUENCE {
    lldpXdot1dcbxRemETSRecoTrafficClass
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxRemETSRecoTrafficClassBandwidth
        LldpXdot1dcbxTrafficClassBandwidthValue
}

lldpXdot1dcbxRemETSRecoTrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class to
        which this bandwidth applies"
    REFERENCE
        "D.2.10.4"
    ::= { lldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry 1 }

lldpXdot1dcbxRemETSRecoTrafficClassBandwidth OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassBandwidthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the bandwidth assigned to this traffic class."
    REFERENCE
        "D.2.10.4"
    ::= { lldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry 2 }

lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per traffic class.  The
        entry in each row indicates the traffic selction
        algorithm to be used by the priority."
    ::= { lldpXdot1dcbxRemETSReco 2 }

lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a priority to traffic selection algorithm
         assignment."
    INDEX        {
                 lldpV2RemTimeMark,
```

```
                    lldpV2RemLocalIfIndex,
                    lldpV2RemLocalDestMACAddress,
                    lldpV2RemIndex,
                    lldpXdot1dcbxRemETSRecoTSATrafficClass
    }
    ::= { lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmTable 1 }

LldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry ::= SEQUENCE {
    lldpXdot1dcbxRemETSRecoTSATrafficClass
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithm
        LldpXdot1dcbxTrafficSelectionAlgorithm
}

lldpXdot1dcbxRemETSRecoTSATrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class that is assigned to a traffic
        selection algorithm."
    REFERENCE
        "D.2.10.5"
    ::= { lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry 1 }

lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithm OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficSelectionAlgorithm
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the Traffic Selection Algorithm to which this
        traffic class is to be assigned."
    REFERENCE
        "D.2.10.5"
    ::= { lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry 2 }

--
-- lldpXdot1dcbxRemPFCTable - Contains the information for the remote
-- system PFC TLV.
--
lldpXdot1dcbxRemPFC OBJECT IDENTIFIER ::= { lldpXdot1dcbxRemoteData 3 }

lldpXdot1dcbxRemPFCBasicTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1dcbxRemPFCBasicEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per port for the IEEE 802.1
        organizationally defined LLDP PFC TLV on the local
        system known to this agent"
    ::= { lldpXdot1dcbxRemPFC 1 }

lldpXdot1dcbxRemPFCBasicEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxRemPFCBasicEntry
```

```
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Information about the IEEE 802.1 organizational defined
        PFC TLV LLDP extension."
    INDEX         {
                  lldpV2RemTimeMark,
                  lldpV2RemLocalIfIndex,
                  lldpV2RemLocalDestMACAddress,
                  lldpV2RemIndex
    }
    ::= { lldpXdot1dcbxRemPFCBasicTable 1 }

LldpXdot1dcbxRemPFCBasicEntry ::= SEQUENCE {
    lldpXdot1dcbxRemPFCWilling    TruthValue,
    lldpXdot1dcbxRemPFCMBC        TruthValue,
    lldpXdot1dcbxRemPFCCap        LldpXdot1dcbxSupportedCapacity
}

lldpXdot1dcbxRemPFCWilling OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates if the remote system is willing to accept the
        PFC configuration of the local system."
    REFERENCE
        "D.2.11.3"
    ::= { lldpXdot1dcbxRemPFCBasicEntry 1}

lldpXdot1dcbxRemPFCMBC OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates if the remote system is capable of bypassing
        MACsec processing when MACsec is disabled."
    REFERENCE
        "D.2.11.4"
    ::= { lldpXdot1dcbxRemPFCBasicEntry 2}

lldpXdot1dcbxRemPFCCap OBJECT-TYPE
    SYNTAX         LldpXdot1dcbxSupportedCapacity
    MAX-ACCESS     read-only
    STATUS         current
    DESCRIPTION
        "Indicates the number of traffic classes on the remote device
        that may simultaneously have PFC enabled."
    REFERENCE
        "D.2.11.5"
    ::= { lldpXdot1dcbxRemPFCBasicEntry 3}

lldpXdot1dcbxRemPFCEnableTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1dcbxRemPFCEnableEntry
```

```
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains eight entries, one entry per priority,
        indicating if PFC is enabled on the corresponding priority."
    ::= { lldpXdot1dcbxRemPFC 2 }

lldpXdot1dcbxRemPFCEnableEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxRemPFCEnableEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Each entry indicates if PFC is enabled on the
        correponding priority"
    INDEX         {
                  lldpV2RemTimeMark,
                  lldpV2RemLocalIfIndex,
                  lldpV2RemLocalDestMACAddress,
                  lldpV2RemIndex,
                  lldpXdot1dcbxRemPFCEnablePriority
    }
    ::= { lldpXdot1dcbxRemPFCEnableTable 1 }

LldpXdot1dcbxRemPFCEnableEntry ::= SEQUENCE {
    lldpXdot1dcbxRemPFCEnablePriority   IEEE8021PriorityValue,
    lldpXdot1dcbxRemPFCEnableEnabled    TruthValue
}

lldpXdot1dcbxRemPFCEnablePriority OBJECT-TYPE
    SYNTAX        IEEE8021PriorityValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Prioity for which PFC is enabled / disabled"
    ::= { lldpXdot1dcbxRemPFCEnableEntry 1 }

lldpXdot1dcbxRemPFCEnableEnabled OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates if PFC is enabled on the corresponding priority"
    REFERENCE
        "D.2.11.6"
    ::= { lldpXdot1dcbxRemPFCEnableEntry 2 }

--
-- lldpXdot1dcbxRemApplicationPriorityTable - Contains the information
-- for the remote system Application Priority TLV.
--

lldpXdot1dcbxRemApplicationPriorityAppTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxRemApplicationPriorityAppEntry
```

```
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Table containing entries indicating the priorty to be used
        for a given application"
    ::= { lldpXdot1dcbxRemoteData 4 }

lldpXdot1dcbxRemApplicationPriorityAppEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxRemApplicationPriorityAppEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Entry that indicates the priority to be used for a
        given application."
    INDEX         {
                  lldpV2RemTimeMark,
                  lldpV2RemLocalIfIndex,
                  lldpV2RemLocalDestMACAddress,
                  lldpV2RemIndex,
                  lldpXdot1dcbxRemApplicationPriorityAESelector,
                  lldpXdot1dcbxRemApplicationPriorityAEProtocol
    }
    ::= { lldpXdot1dcbxRemApplicationPriorityAppTable 1 }

LldpXdot1dcbxRemApplicationPriorityAppEntry ::= SEQUENCE {
    lldpXdot1dcbxRemApplicationPriorityAESelector
        LldpXdot1dcbxAppSelector,
    lldpXdot1dcbxRemApplicationPriorityAEProtocol
        LldpXdot1dcbxAppProtocol,
    lldpXdot1dcbxRemApplicationPriorityAEPriority
        IEEE8021PriorityValue
}

lldpXdot1dcbxRemApplicationPriorityAESelector OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxAppSelector
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the contents of the protocol object
        (lldpXdot1dcbxRemApplicationPriorityAEProtocol)
        1: Ethertype
        2: Well Known Port number over TCP, or SCTP
        3: Well Known Port number over UDP, or DCCP
        4: Well Known Port number over TCP, SCTP, UDP, and DCCP"
    REFERENCE
        "D.2.12.3"
    ::= { lldpXdot1dcbxRemApplicationPriorityAppEntry 1 }

lldpXdot1dcbxRemApplicationPriorityAEProtocol OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxAppProtocol
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "The protocol indicator of the type indicated by
```

```
        lldpXdot1dcbxRemApplicationPriorityAESelector."
    REFERENCE
        "D.2.12.3"
    ::= { lldpXdot1dcbxRemApplicationPriorityAppEntry 2 }

lldpXdot1dcbxRemApplicationPriorityAEPriority OBJECT-TYPE
    SYNTAX        IEEE8021PriorityValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The priority code point that should be used in
        frames transporting the protocol indicated by
        lldpXdot1dcbxRemApplicationPriorityAESelector and
        lldpXdot1dcbxRemApplicationPriorityAEProtocol"
    REFERENCE
        "D.2.12.3"
    ::= { lldpXdot1dcbxRemApplicationPriorityAppEntry 3 }

--------------------------------------------------------------------------
-- IEEE 802.1 - DCBX Administrative Information
--------------------------------------------------------------------------

--
-- lldpXdot1dcbxAdminETSConfigurationTable - Contains the information
-- for the ETS Configuration TLV.
--
lldpXdot1dcbxAdminETSConfiguration OBJECT IDENTIFIER
    ::= { lldpXdot1dcbxAdminData 1 }

lldpXdot1dcbxAdminETSBasicConfigurationTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxAdminETSBasicConfigurationEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per port for the IEEE 802.1
        organizationally defined LLDP ETS Configuration TLV
        on the local system known to this agent"
    ::= { lldpXdot1dcbxAdminETSConfiguration 1 }

lldpXdot1dcbxAdminETSBasicConfigurationEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxAdminETSBasicConfigurationEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Information about the IEEE 802.1 organizational defined
        ETS Configuration TLV LLDP extension."
    INDEX         { lldpV2LocPortIfIndex }
    ::= { lldpXdot1dcbxAdminETSBasicConfigurationTable 1 }

LldpXdot1dcbxAdminETSBasicConfigurationEntry ::= SEQUENCE {
    lldpXdot1dcbxAdminETSConCreditBasedShaperSupport      TruthValue,
    lldpXdot1dcbxAdminETSConTrafficClassesSupported
        LldpXdot1dcbxSupportedCapacity,
```

```
    lldpXdot1dcbxAdminETSConWilling    TruthValue
}

lldpXdot1dcbxAdminETSConCreditBasedShaperSupport OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates support for the credit-based shaper Traffic
        Selection Algorithm."
    REFERENCE
        "D.2.9.4"
    ::= { lldpXdot1dcbxAdminETSBasicConfigurationEntry 1 }

lldpXdot1dcbxAdminETSConTrafficClassesSupported OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxSupportedCapacity
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "Indicates the number of traffic classes supported."
    REFERENCE
        "D.2.9.5"
    ::= { lldpXdot1dcbxAdminETSBasicConfigurationEntry 2 }

lldpXdot1dcbxAdminETSConWilling OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "Indicates if the local system is willing to accept the
        ETS configuration recommended by the remote system."
    REFERENCE
        "D.2.9.3"
    DEFVAL         { false }
    ::= { lldpXdot1dcbxAdminETSBasicConfigurationEntry 3 }

lldpXdot1dcbxAdminETSConPriorityAssignmentTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxAdminETSConPriorityAssignmentEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per priority.  The entry in each
        row indicates the traffic class to which the priority is
        assigned."
    ::= { lldpXdot1dcbxAdminETSConfiguration 2 }

lldpXdot1dcbxAdminETSConPriorityAssignmentEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxAdminETSConPriorityAssignmentEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a priority to traffic class assignment."
    INDEX        {
```

```
                lldpV2LocPortIfIndex,
                lldpXdot1dcbxAdminETSConPriority
    }
    ::= { lldpXdot1dcbxAdminETSConPriorityAssignmentTable 1 }

LldpXdot1dcbxAdminETSConPriorityAssignmentEntry ::= SEQUENCE {
    lldpXdot1dcbxAdminETSConPriority        IEEE8021PriorityValue,
    lldpXdot1dcbxAdminETSConPriTrafficClass
        LldpXdot1dcbxTrafficClassValue
}

lldpXdot1dcbxAdminETSConPriority OBJECT-TYPE
    SYNTAX        IEEE8021PriorityValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the priority that is assigned to a traffic
        class."
    REFERENCE
        "D.2.9.6"
    ::= { lldpXdot1dcbxAdminETSConPriorityAssignmentEntry 1 }

lldpXdot1dcbxAdminETSConPriTrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class to which this priority is
        to be assigned."
    REFERENCE
        "D.2.9.6"
    DEFVAL      { 0 }
    ::= { lldpXdot1dcbxAdminETSConPriorityAssignmentEntry 2 }

lldpXdot1dcbxAdminETSConTrafficClassBandwidthTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxAdminETSConTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per traffic class.  The
        entry in each row indicates the traffic class to
        which the bandwidth is assigned."
    ::= { lldpXdot1dcbxAdminETSConfiguration 3 }

lldpXdot1dcbxAdminETSConTrafficClassBandwidthEntry OBJECT-TYPE
    SYNTAX      LldpXdot1dcbxAdminETSConTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a traffic class to Bandwidth assignment."
    INDEX        {
                lldpV2LocPortIfIndex,
                lldpXdot1dcbxAdminETSConTrafficClass
```

```
    }
    ::= { lldpXdot1dcbxAdminETSConTrafficClassBandwidthTable 1 }

LldpXdot1dcbxAdminETSConTrafficClassBandwidthEntry ::= SEQUENCE {
    lldpXdot1dcbxAdminETSConTrafficClass
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxAdminETSConTrafficClassBandwidth
        LldpXdot1dcbxTrafficClassBandwidthValue
}

lldpXdot1dcbxAdminETSConTrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class to
        which this bandwidth applies"
    REFERENCE
        "D.2.9.7"
    ::= { lldpXdot1dcbxAdminETSConTrafficClassBandwidthEntry 1 }

lldpXdot1dcbxAdminETSConTrafficClassBandwidth OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassBandwidthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "Indicates the bandwidth assigned to this traffic class.
        The sum of the bandwidths assigned to a given port is
        required at all times to eqaul 100.  An operation that
        attempts to change this table such that the bandwidth
        entires do not total 100 shall be rejected. An implication
        of this is that modification of this table requires that
        multiple set operations be included in a single SNMP PDU,
        commonly referred to as an MSET operation, to perform
        simultaneous set operations to keep the sum at 100.  Any
        attempt to change a single entry in this table will result
        in the operation being rejected since entries in the
        table referring to the given port will no longer
        sum to 100."
    REFERENCE
        "D.2.9.7"
    ::= { lldpXdot1dcbxAdminETSConTrafficClassBandwidthEntry 2 }

lldpXdot1dcbxAdminETSConTrafficSelectionAlgorithmTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxAdminETSConTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per traffic class.  The entry
        in each row indicates the traffic selction algorithm to
        be used by the priority."
    ::= { lldpXdot1dcbxAdminETSConfiguration 4 }
```

```
lldpXdot1dcbxAdminETSConTrafficSelectionAlgorithmEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxAdminETSConTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a traffic class to traffic selection
        algorithm assignment."
    INDEX       {
                lldpV2LocPortIfIndex,
                lldpXdot1dcbxAdminETSConTSATrafficClass
    }
    ::= { lldpXdot1dcbxAdminETSConTrafficSelectionAlgorithmTable 1 }

LldpXdot1dcbxAdminETSConTrafficSelectionAlgorithmEntry ::= SEQUENCE {
    lldpXdot1dcbxAdminETSConTSATrafficClass
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxAdminETSConTrafficSelectionAlgorithm
        LldpXdot1dcbxTrafficSelectionAlgorithm
}

lldpXdot1dcbxAdminETSConTSATrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class that is assigned
        to a traffic selection algorithm."
    REFERENCE
        "D.2.9.8"
    ::= { lldpXdot1dcbxAdminETSConTrafficSelectionAlgorithmEntry 1 }

lldpXdot1dcbxAdminETSConTrafficSelectionAlgorithm OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficSelectionAlgorithm
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "Indicates the Traffic Selection Algorithm to which this
        traffic class is to be assigned."
    REFERENCE
        "D.2.9.8"
    ::= { lldpXdot1dcbxAdminETSConTrafficSelectionAlgorithmEntry 2 }


--
-- lldpXdot1dcbxAdminETSRecommendationTable - Contains the information
-- for the ETS Recommendation TLV.
--
lldpXdot1dcbxAdminETSReco OBJECT IDENTIFIER ::=
  { lldpXdot1dcbxAdminData 2 }

lldpXdot1dcbxAdminETSRecoTrafficClassBandwidthTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
```

```
    STATUS        current
    DESCRIPTION
        "This table contains one row per traffic class.  The
        entry in each row indicates the traffic class to
        which the bandwidth is assigned."
    ::= { lldpXdot1dcbxAdminETSReco 1 }

lldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry OBJECT-TYPE
    SYNTAX      LldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a traffic class to Bandwidth assignment."
    INDEX        {
                 lldpV2LocPortIfIndex,
                 lldpXdot1dcbxAdminETSRecoTrafficClass
    }
    ::= { lldpXdot1dcbxAdminETSRecoTrafficClassBandwidthTable 1 }

LldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry ::= SEQUENCE {
    lldpXdot1dcbxAdminETSRecoTrafficClass
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxAdminETSRecoTrafficClassBandwidth
        LldpXdot1dcbxTrafficClassBandwidthValue
}

lldpXdot1dcbxAdminETSRecoTrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class to
        which this bandwidth applies"
    REFERENCE
        "D.2.10.4"
    ::= { lldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry 1 }

lldpXdot1dcbxAdminETSRecoTrafficClassBandwidth OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassBandwidthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "Indicates the bandwidth assigned to this traffic class.
        The sum of the bandwidths assigned to a given port is
        required at all times to eqaul 100.  An operation that
        attempts to change this table such that the bandwidth
        entires do not total 100 shall be rejected. An implication
        of this is that modification of this table requires that
        multiple set operations be included in a single SNMP PDU,
        commonly referred to as an MSET operation, to perform
        simultaneous set operations to keep the sum at 100.  Any
        attempt to change a single entry in this table will result
        in the operation being rejected since entries in the
        table referring to the given port will no longer
```

```
        sum to 100."

    REFERENCE
        "D.2.10.4"
    ::= { lldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry 2 }

lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per traffic class.  The entry
        in each row indicates the traffic selction algorithm to
        be used by the traffic class."
    ::= { lldpXdot1dcbxAdminETSReco 2 }

lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmEntry OBJECT-TYPE
    SYNTAX    LldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates a traffic class to traffic selection
        algorithm assignment."
    INDEX        {
                lldpV2LocPortIfIndex,
                lldpXdot1dcbxAdminETSRecoTSATrafficClass
    }
    ::= { lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmTable 1 }

LldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmEntry ::= SEQUENCE {
    lldpXdot1dcbxAdminETSRecoTSATrafficClass
        LldpXdot1dcbxTrafficClassValue,
    lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithm
        LldpXdot1dcbxTrafficSelectionAlgorithm
}

lldpXdot1dcbxAdminETSRecoTSATrafficClass OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficClassValue
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the traffic class that is assigned to a traffic
        selection algorithm."
    REFERENCE
        "D.2.10.5"
    ::= { lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmEntry 1 }

lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithm OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxTrafficSelectionAlgorithm
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "Indicates the Traffic Selection Algorithm to which this
```

```
        traffic class is to be assigned."
    REFERENCE
        "D.2.10.5"
    ::= { lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmEntry 2 }

--
-- lldpXdot1dcbxAdminPFCTable - Contains the information for the PFC
-- Configuration TLV.
--
lldpXdot1dcbxAdminPFC OBJECT IDENTIFIER ::= { lldpXdot1dcbxAdminData 3 }

lldpXdot1dcbxAdminPFCBasicTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1dcbxAdminPFCBasicEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains one row per port for the IEEE 802.1
        organizationally defined LLDP PFC TLV on the local
        system known to this agent"
    ::= { lldpXdot1dcbxAdminPFC 1 }

lldpXdot1dcbxAdminPFCBasicEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxAdminPFCBasicEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Information about the IEEE 802.1 organizational defined
        PFC TLV LLDP extension."
    INDEX         { lldpV2LocPortIfIndex }
    ::= { lldpXdot1dcbxAdminPFCBasicTable 1 }

LldpXdot1dcbxAdminPFCBasicEntry ::= SEQUENCE {
    lldpXdot1dcbxAdminPFCWilling    TruthValue,
    lldpXdot1dcbxAdminPFCMBC        TruthValue,
    lldpXdot1dcbxAdminPFCCap        LldpXdot1dcbxSupportedCapacity
}

lldpXdot1dcbxAdminPFCWilling OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "Indicates if the local system is willing to accept the
        PFC configuration of the remote system."
    REFERENCE
        "D.2.11.3"
    DEFVAL      { false }
    ::= { lldpXdot1dcbxAdminPFCBasicEntry 1}

lldpXdot1dcbxAdminPFCMBC OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
```

```
        "Indicates if the local system is capable of bypassing
        MACsec processing when MACsec is disabled."
    REFERENCE
        "D.2.11.4"
    ::= { lldpXdot1dcbxAdminPFCBasicEntry 2}

lldpXdot1dcbxAdminPFCCap OBJECT-TYPE
    SYNTAX         LldpXdot1dcbxSupportedCapacity
    MAX-ACCESS    read-only
    STATUS    current
    DESCRIPTION
        "Indicates the number of traffic classes on the local device
        that may simultaneously have PFC enabled.

        Note that this typically indicates a physical limitation of the
        device.  However, some devices may allow this parameter to be
        administratively configured, in which case the MAX-ACCESS
        should be changed to read-write with and an appropriate
        DEFVAL added."
    REFERENCE
        "D.2.11.5"
    ::= { lldpXdot1dcbxAdminPFCBasicEntry 3}

lldpXdot1dcbxAdminPFCEnableTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF LldpXdot1dcbxAdminPFCEnableEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "This table contains eight entries, one entry per priority,
        indicating if PFC is enabled on the corresponding priority."
    ::= { lldpXdot1dcbxAdminPFC 2 }

lldpXdot1dcbxAdminPFCEnableEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxAdminPFCEnableEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Each entry indicates if PFC is enabled on the
        correponding priority"
    INDEX {
        lldpV2LocPortIfIndex,
        lldpXdot1dcbxAdminPFCEnablePriority
    }
    ::= { lldpXdot1dcbxAdminPFCEnableTable 1 }

LldpXdot1dcbxAdminPFCEnableEntry ::= SEQUENCE {
    lldpXdot1dcbxAdminPFCEnablePriority    IEEE8021PriorityValue,
    lldpXdot1dcbxAdminPFCEnableEnabled    TruthValue
    }

lldpXdot1dcbxAdminPFCEnablePriority OBJECT-TYPE
    SYNTAX        IEEE8021PriorityValue
    MAX-ACCESS    not-accessible
    STATUS        current
```

```
    DESCRIPTION
        "Prioity for which PFC is enabled / disabled"
    ::= { lldpXdot1dcbxAdminPFCEnableEntry 1 }

lldpXdot1dcbxAdminPFCEnableEnabled OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "Indicates if PFC is enabled on the corresponding priority"
    REFERENCE
        "D.2.11.6"
    DEFVAL      { false }
    ::= { lldpXdot1dcbxAdminPFCEnableEntry 2 }

--
-- lldpXdot1dcbxAdminApplicationPriorityTable - Contains the
-- information for the Application Priority TLV.
--

lldpXdot1dcbxAdminApplicationPriorityAppTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF
        LldpXdot1dcbxAdminApplicationPriorityAppEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Table containing entries indicating the priorty to be used
        for a given application"
    ::= { lldpXdot1dcbxAdminData 4 }

lldpXdot1dcbxAdminApplicationPriorityAppEntry OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxAdminApplicationPriorityAppEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Entry that indicates the priority to be used for a
        given application."
    INDEX         {
                  lldpV2LocPortIfIndex,
                  lldpXdot1dcbxAdminApplicationPriorityAESelector,
                  lldpXdot1dcbxAdminApplicationPriorityAEProtocol
    }
    ::= { lldpXdot1dcbxAdminApplicationPriorityAppTable 1 }

LldpXdot1dcbxAdminApplicationPriorityAppEntry ::= SEQUENCE {
    lldpXdot1dcbxAdminApplicationPriorityAESelector
        LldpXdot1dcbxAppSelector,
    lldpXdot1dcbxAdminApplicationPriorityAEProtocol
        LldpXdot1dcbxAppProtocol,
    lldpXdot1dcbxAdminApplicationPriorityAEPriority
        IEEE8021PriorityValue
}

lldpXdot1dcbxAdminApplicationPriorityAESelector OBJECT-TYPE
```

```
    SYNTAX        LldpXdot1dcbxAppSelector
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "Indicates the contents of the protocol object
        (lldpXdot1dcbxAdminApplicationPriorityAEProtocol)
        1: Ethertype
        2: Well Known Port number over TCP, or SCTP
        3: Well Known Port number over UDP, or DCCP
        4: Well Known Port number over TCP, SCTP, UDP, and DCCP"
    REFERENCE
        "D.2.11.6"
    ::= { lldpXdot1dcbxAdminApplicationPriorityAppEntry 1 }

lldpXdot1dcbxAdminApplicationPriorityAEProtocol OBJECT-TYPE
    SYNTAX        LldpXdot1dcbxAppProtocol
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "The protocol indicator of the type indicated by
        lldpXdot1dcbxAdminApplicationPriorityAESelector."
    REFERENCE
        "D.2.11.6"
    ::= { lldpXdot1dcbxAdminApplicationPriorityAppEntry 2 }

lldpXdot1dcbxAdminApplicationPriorityAEPriority OBJECT-TYPE
    SYNTAX        IEEE8021PriorityValue
    MAX-ACCESS    read-create
    STATUS        current
    DESCRIPTION
        "The priority code point that should be used in
        frames transporting the protocol indicated by
        lldpXdot1dcbxAdminApplicationPriorityAESelector and
        lldpXdot1dcbxAdminApplicationPriorityAEProtocol"
    REFERENCE
        "D.2.11.6"
    ::= { lldpXdot1dcbxAdminApplicationPriorityAppEntry 3 }

--------------------------------------------------------------------------
-- IEEE 802.1 - DCBX Conformance Information
--------------------------------------------------------------------------
lldpXdot1dcbxConformance OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 6 }
lldpXdot1dcbxCompliances
    OBJECT IDENTIFIER ::= { lldpXdot1dcbxConformance 1 }
lldpXdot1dcbxGroups
    OBJECT IDENTIFIER ::= { lldpXdot1dcbxConformance 2 }

--
-- Compliance Statements
--

lldpXdot1dcbxCompliance MODULE-COMPLIANCE
    STATUS        current
    DESCRIPTION
```

```
            "A compliance statement for SNMP entities that implement
            the IEEE 802.1 organizationally defined DCBX LLDP
            extension MIB.

            This group is mandatory for agents which implement Enhanced
            Transmission Selection."
        MODULE        -- this module
            MANDATORY-GROUPS  { lldpXdot1dcbxETSGroup,
                                lldpXdot1dcbxPFCGroup,
                                lldpXdot1dcbxApplicationPriorityGroup,
                                ifGeneralInformationGroup
            }
        ::= { lldpXdot1dcbxCompliances 1 }

--
-- MIB Groupings
--

lldpXdot1dcbxETSGroup  OBJECT-GROUP
    OBJECTS {
        lldpXdot1dcbxConfigETSConfigurationTxEnable,
        lldpXdot1dcbxConfigETSRecommendationTxEnable,
        lldpXdot1dcbxLocETSConCreditBasedShaperSupport,
        lldpXdot1dcbxLocETSConTrafficClassesSupported,
        lldpXdot1dcbxLocETSConWilling,
        lldpXdot1dcbxLocETSConPriTrafficClass,
        lldpXdot1dcbxLocETSConTrafficClassBandwidth,
        lldpXdot1dcbxLocETSConTrafficSelectionAlgorithm,
        lldpXdot1dcbxLocETSRecoTrafficClassBandwidth,
        lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithm,
        lldpXdot1dcbxRemETSConCreditBasedShaperSupport,
        lldpXdot1dcbxRemETSConTrafficClassesSupported,
        lldpXdot1dcbxRemETSConWilling,
        lldpXdot1dcbxRemETSConPriTrafficClass,
        lldpXdot1dcbxRemETSConTrafficClassBandwidth,
        lldpXdot1dcbxRemETSConTrafficSelectionAlgorithm,
        lldpXdot1dcbxRemETSRecoTrafficClassBandwidth,
        lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithm,
        lldpXdot1dcbxAdminETSConCreditBasedShaperSupport,
        lldpXdot1dcbxAdminETSConTrafficClassesSupported,
        lldpXdot1dcbxAdminETSConWilling,
        lldpXdot1dcbxAdminETSConPriTrafficClass,
        lldpXdot1dcbxAdminETSConTrafficClassBandwidth,
        lldpXdot1dcbxAdminETSConTrafficSelectionAlgorithm,
        lldpXdot1dcbxAdminETSRecoTrafficClassBandwidth,
        lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithm
    }
    STATUS  current
    DESCRIPTION
        "The collection of objects used for Enhanced
        Transmission Selection."
    ::= { lldpXdot1dcbxGroups 1 }

lldpXdot1dcbxPFCGroup  OBJECT-GROUP
```

```
    OBJECTS {
        lldpXdot1dcbxConfigPFCTxEnable,
        lldpXdot1dcbxLocPFCWilling,
        lldpXdot1dcbxLocPFCMBC,
        lldpXdot1dcbxLocPFCCap,
        lldpXdot1dcbxLocPFCEnableEnabled,
        lldpXdot1dcbxRemPFCWilling,
        lldpXdot1dcbxRemPFCMBC,
        lldpXdot1dcbxRemPFCCap,
        lldpXdot1dcbxRemPFCEnableEnabled,
        lldpXdot1dcbxAdminPFCWilling,
        lldpXdot1dcbxAdminPFCMBC,
        lldpXdot1dcbxAdminPFCCap,
        lldpXdot1dcbxAdminPFCEnableEnabled
    }
    STATUS  current
    DESCRIPTION
        "The collection of objects used for Priority-
        base Flow Control."
    ::= { lldpXdot1dcbxGroups 2 }

lldpXdot1dcbxApplicationPriorityGroup  OBJECT-GROUP
    OBJECTS {
        lldpXdot1dcbxConfigApplicationPriorityTxEnable,
        lldpXdot1dcbxLocApplicationPriorityAEPriority,
        lldpXdot1dcbxRemApplicationPriorityAEPriority,
        lldpXdot1dcbxAdminApplicationPriorityAEPriority
    }
    STATUS  current
    DESCRIPTION
        "The collection of objects used for Application
        priority."
    ::= { lldpXdot1dcbxGroups 3 }
END
```

D.5 PICS proforma for IEEE 802.1 Organizationally Specific TLV extensions

D.5.3 Major capabilities and options

Insert the following rows at the end of D.5.3:

Item	Feature	Status	References	Support
dcbxSet	Is the IEEE 802.1 DCBX TLV set implemented?	O.1	Annex D	Yes [ ] No [ ]
dcbxtlv	Is each TLV in the IEEE 802.1 DCBX TLV set implemented?			
	ETS Configuration TLV	dcbxSet:M	D.2.9	Yes [ ]
	ETS Recommendation TLV	dcbxSet:M	D.2.10	Yes [ ]
	Priority-based Flow Control Configuration TLV	dcbxSet:M	D.2.11	Yes [ ]
	Application Priority TLV	dcbxSet:M	D.2.12	Yes [ ]