

IEEE P802.1Qbh/D2.1

Draft Standard for
Local and Metropolitan Area Networks—

Virtual Bridged Local Area Networks — Amendment: Bridge Port Extension

Sponsor
LAN/MAN Standards Committee
of the
IEEE Computer Society

Prepared by the Data Center Bridging and Interworking Task Groups of IEEE 802.1

Abstract: This amendment to IEEE Std. 802.1Q specifies support of the MAC Service by Extended Bridges, the principles of operation of networks built with Extended Bridges, the operation of VLAN-aware Bridges features for the Controlling Bridge used in an Extended Bridge, and the control of Port Extenders used in an Extended Bridge including management, protocols and algorithms.

Abstract: Bridged Local Area Networks, LANs, local area networks, metropolitan area networks, MAC Bridges, MANs, Virtual Bridged Local Area Networks, Edge Virtual Bridging, Data Center Bridging, EVB, DCB.

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Editors' Foreword

<<Notes>>

<<Throughout this document, all notes such as this one, presented between angle braces, are temporary notes inserted by the Editors for a variety of purposes; these notes and the Editors' Foreword will all be removed prior to publication and are not part of the normative text.>>

<<Comments and participation in 802.1 standards development

Comments on this draft are encouraged. **PLEASE NOTE: All issues related to IEEE standards presentation style, formatting, spelling, etc. are routinely handled between the 802.1 Editor and the IEEE Staff Editors prior to publication, after balloting and the process of achieving agreement on the technical content of the standard is complete.** Readers are urged to devote their valuable time and energy only to comments that materially affect either the technical content of the document or the clarity of that technical content. Comments should not simply state what is wrong, but also what might be done to fix the problem.

Full participation in the development of this draft requires individual attendance at IEEE 802 meetings. Information on 802.1 activities, working papers, and email distribution lists etc. can be found on the 802.1 Website:

<http://ieee802.org/1/>

Use of the email distribution list is not presently restricted to 802.1 members, and the working group has had a policy of considering ballot comments from all who are interested and willing to contribute to the development of the draft. Individuals not attending meetings have helped to identify sources of misunderstanding and ambiguity in past projects. Non-members are advised that the email lists exist primarily to allow the members of the working group to develop standards, and are not a general forum.

Comments on this document may be sent to the 802.1 email exploder, to the editors, or to the Chairs of the 802.1 Working Group, Data Center Bridging Task Group, and Interworking Task Group.

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<<Overview: Draft text and accompanying information

This document currently comprises:

- A cover page, identical to the title page.

- The editors' introductory notes to each draft, briefly summarizing the progress and focus of each successive draft.

- The title page for this amendment including an Abstract and Keywords. This title page will be retained for the period that the amendment is published as a separate document.

- The revision document proper, documented in the usual form for 802 standards.

- An Annex Z comprising the editors' discussion of issues. This annex will be deleted from the document prior to sponsor ballot.

- Editors' notes throughout the document, including requests for comment on specific issues and pointing deficiencies in the current draft.

- IEEE boilerplate text.

The records of participants in the development of the standard, the introduction to 802 standards, and the introduction to this revision of the standard are not included, and will be added at an appropriate time.

During the early stages of draft development, 802.1 editors have a responsibility to attempt to craft technically coherent drafts from the resolutions of ballot comments and the other discussions that take place in the working group meetings. Preparation of drafts often exposes inconsistencies in editors instructions or exposes the need to make choices between approaches that were not fully apparent in the meeting. Choices and requests by the editors' for contributions on specific issues will be found in the editors' introductory notes to the current draft, at appropriate points in the draft, and in Annex Z. Significant discussion of more difficult topics will be found in the last of these.

The ballot comments received on each draft, and the editors' proposed and final disposition of comments, are part of the audit trail of the development of the standard and are available, along with all the revisions of the draft on the 802.1 website (for address see above).

>>

<<Project Authorization Request, Scope, Purpose, and Five Criteria

The PAR (Project Authorization Request) Scope, Purpose, and Need for this project, as approved by IEEE Nescom follow, along with the 5 criteria developed as part of the IEEE 802 PAR process:

Scope: This amendment specifies protocols, procedures, and managed objects to support Port Extension. A Port Extender attaches to a MAC Port of an 802.1Q bridge and provides additional MAC Ports that are logically Ports of the 802.1Q bridge to which it is attached (i.e. the "Controlling Bridge"). The protocols, procedures, and managed objects specified in this amendment are expected to specify new behavior in bridges that support Port Extension as well as the behavior of Port Extenders themselves. In addition, the protocols, procedures, and managed objects specified in this amendment support the cascading of Port Extenders. To the extent technically reasonable, all frame filtering and relay functions remain in the Controlling Bridge. Use of a Service Virtual LAN Tag (S-TAG) for Multichannel capability as being defined in Edge Virtual Bridging is envisaged to achieve this objective. A new on-the-wire indication (e.g. a new tag) is envisioned to support remote replication for purposes including frame flooding and group address support.

Purpose: The purposes of this project include:

- To reduce the management cost of networks comprising large number of bridges (such as those commonly found in a data center environments) through significant reduction in both the number of devices to be managed and the management traffic required.

- To decrease total cost of ownership by reducing initial capital expenditure along with management and operational costs.

Need for the Project: Data center management today is highly complex. This complexity may be reduced by aggregating the more complex bridging functions onto fewer bridges and by collapsing bridge layers from a management perspective. The EVB project is defining reflective relay and multichannel capabilities. The Port Extension project extends these capabilities by providing a remote replication service. In addition, a Port

Extender device will be specified that utilizes the EVB capabilities and remote replication service. This is intended to reduce management complexity by aggregating the more complex bridging functions onto fewer bridges.

The Port Extender device may be used to collapse layers in the network resulting in reduced capital expenditure, points of management, and management traffic and thus reducing total cost of ownership.

Five Criteria

1. Broad Market Potential

a. Broad sets of applicability

Data centers containing hundreds or thousands of deployed bridges are common. These include data centers that have deployed high density server solutions including “1U” servers, server blade racks, etc. Deployments such as these are expected to significantly benefit from the technologies proposed. Additionally, data centers that have deployed server virtualization technology are expected to enjoy even greater benefits.

b. Multiple vendors and numerous users

There has been interest expressed by multiple vendors in this technology. In addition, many vendors have announced products supporting similar technology in a proprietary fashion. This technology is applicable to bridge, NIC, server, and software vendors. Given the wide deployment of networks that would benefit from this technology, numerous users may clearly be expected.

c. Balanced costs (LAN versus attached stations)

This technology has been expressly designed for balanced costs. It is deployable with no change to existing attached stations (that is, the technology interoperates with existing NIC cards). The design of the Port Extender function has been carefully considered to keep costs constrained. This has been a high priority since it is expected that Port Extenders may well outnumber bridges in typical deployments and are likely to be integrated in with attached stations.

2. Compatibility

The combination of Port Extenders and their Controlling Bridge result in an 802.1Q bridge, thus compatibility with external devices is assured. In particular, such a combination will fully interoperate with neighbor bridges (whether embedded in stations or external), as well as existing NIC cards. Finally, this technology will assume full benefit of other Data Center Bridging technologies under development including Priority-based flow control, Enhanced Transmission Selection, and Congestion Notification.

3. Distinct Identity

a. Substantially different from other IEEE 802 standards

IEEE Std 802.1Q is the authoritative specification for Bridges. No other IEEE 802 standard addresses remote replication and Port Extension by bridges.

b. One unique solution per problem (not two solutions to a problem)

The need to provide remote replication and Port Extension has not been anticipated by any other standard. Consequently, this is the only solution to this problem. Importantly, this proposal address the needs produced by both external and embedded bridge devices along with server virtualization with a common solution thereby eliminating the need for an additional solution in the future.

c. Easy for the document reader to select the relevant specification

IEEE Std 802.1Q is the natural reference for Port Extension of 802.1Q bridges.

4. Technical Feasibility

a. Demonstrated system feasibility

Similar techniques have been deployed as proprietary enhancements to 802.1Q bridging and are supported by multiple vendors. In additions, roughly analogous techniques have been deployed in Fibre Channel that have been widely adopted. These deployments have shown that the technology proposed is feasible.

b. Proven technology, reasonable testing

This technology has been proven on an operational basis in data centers using proprietary implementations. The resulting behavior remains that of an 802.1Q bridge thus existing testing methodologies remain applicable. The on-the-wire indication of ingress / egress Port numbers is intuitively reasonable to test and has been shown to be such in the existing proprietary implementations.

c. Confidence in reliability

The overall behavior is that of an 802.1Q bridge; the reliability of such has been firmly established. Furthermore, the simplicity of the Port Extenders compared to that of the bridges they replace, along with the associated reductions in management complexity, is expected to yield an increase in reliability over that achievable today.

d. Coexistence of 802 wireless standards specifying devices for unlicensed operation

Not applicable.

5. Economic Feasibility

a. Known cost factors, reliable data

Port Extenders are expected to cost less than existing bridges due to their relative simplicity (e.g. by simplifying the address table structure and eliminating many of the advanced functions typically found in the bridges that Port Extenders would replace). This is supported by experience in existing deployments of this technology. In addition, the resultant reduction in management complexity brings significant cost advantages. The Port Extender creates many lower cost Ports for every controlling bridge Port further benefiting the overall system cost. Existing experience also indicates no significant increase in the cost of the bridges that attach to the Port Extenders.

b. Reasonable cost for performance

The proposed technology reduces overall system cost while maintaining existing performance (both in raw bandwidth and feature / functionality) for a wide variety of deployments thus cost for performance is benefited.

c. Consideration of installation costs

Due to the simplicity of the Port Extender device, initial capital expenditure and initial configuration costs are expected to be reduced.

>>

<<Editor's Introduction to draft 0.0.

This is the initial Editor's draft. >>

<<Editor's Introduction to draft 0.1.

Added significant technical content particularly around the architecture and operation of Bridge Port Extension.>>

<<Editor's Introduction to draft 0.2.

Modified content to reflect feedback from the March, 2010 Plenary meeting in Orlando, Florida. This includes:

- Removal of the “filter” bit from the M-TAG and added an explanation of the use of a NULL value of S-VID instead.

- Added the PCP and DEI fields to the M-TAG.

- Added text regarding how the MCID is determined. During the meeting, a couple options were discussed but there was no clear consensus. The editor picked one method for inclusion as a starting point. Refer to annex Z for more information.

- Added text regarding how the source S-VID is communicated to the EISS for generation of the M-TAG. Note that this adds yet another parameter to the EM_UNITDATA.request primitive. There was concern raised that adding parameters to these primitives “should not be taken lightly.” The editor believes that these parameters have been added with all due concern and respect; however, the editor solicits suggestions for any alternatives that might be considered.

- Added clause specifying the Port Extender Control and Status Protocol>>

<<Editor’s Introduction to draft 0.3.

Modified content to reflect the ballot comment resolutions from draft 0.2 and to incorporate feedback from the May, 2010 Interim meeting in Geneva, Switzerland. Added additional content to Port Extender Control and Status Protocol in clause 45.

>>

<<Editor’s Introduction to draft 0.4.

Modified content to reflect the ballot comment resolutions from draft 0.3 and to incorporate feedback from the July, 2010 Plenary meeting in San Diego, California. In addition, clause 45, the Port Extender Control and Status Protocol, was simplified significantly to take advantage of the ECP and VDP.

>>

<<Editor’s Introduction to draft 0.5.

Modified content to reflect the ballot comment resolutions from draft 0.4 and to incorporate feedback from the September, 2010 interim meeting in York, England. As a result of this input, the draft was modified in numerous places to use a single tag for multicast and unicast. Since the term M-TAG and M-component imply multicast, these terms were changed to E-TAG and E-component to imply “extension”.

>>

<<Editor’s Introduction to draft 1.0.

Modified content to reflect the ballot comment resolutions from draft 0.5 and to incorporate feedback from the November, 2010 plenary meeting in Dallas, TX. In addition, the management and PICs sections were added.>>

<<Editor’s Introduction to draft 1.1.

Modified content to reflect the ballot comment resolutions from draft 1.1 and to incorporate feedback from the January, 2011 plenary meeting in Lihue, HI. As a result of this feedback, the Port Extender is now specified as an independent device in clause 45 rather than as a type of VLAN-aware Bridge component. Furthermore, the concept of an E-component has been removed (its now called a Port Extender everywhere). Also, the concept that an E-channel is a type of VLAN has been removed. There still remains a small number of additions to the VLAN-aware Bridge component to support a Controlling Bridge that uses the remote replication capability.>>

<<Editor’s introduction to draft 1.2.

Draft 1.2 is an intermediate draft (i.e., not submitted for working group ballot). As part of the comment resolution of draft 1.1, it was decided to split part of P802.1Qbh into a new standard, P802.1BR. P802.1Qbh will retain the material relevant to bridges. P802.1BR will contain the material specific to Port Extension (largely clauses 9, 44, and 45). This draft responds to all of the comments received on draft 1.1 with the exception of splitting out the new material. Draft 1.2 forms the basis for the split.>>

<<Editor's introduction to draft 2.0

This draft has been updated to include only the enhancements required to support Port Extension by a Controlling Bridge. The specification of the Port Extender itself, the E-TAG, and the Port Extender Control and Status Protocol has been moved into a separate standard P802.1BR.>>

<<Editor's introduction of draft 2.1

All of the material in this draft has been moved to 802.1BR with the exception of an explanation in clause 5 that a Bridge can be a Controlling Bridge referring to 802.1BR, the addition of PE CSP type to ECP in clause 43, and the LLDP PE TLV in clause D.>>

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Introduction to IEEE P802.1Qbh™

(This introduction is not part of P802.1Qbh, IEEE Standards for Local and metropolitan area networks—Virtual Bridged Local Area Networks—Amendment: Bridge Port Extension.)

This standard allows bridge Port Extension of a controlling bridge's Ports to Ports provided by a Port Extender. To this end it:

- a) Notes that additional conformance for a Controlling Bridge exists in IEEE Std 802.1BR.
- b) Specifies a LLDP TLV for the identification of Port Extenders and the advertisement of support of Bridge Port Extension.

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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Participants

The following is a list of participants in the Interworking activities of the IEEE 802.1 Working Group during the development of P802.1Qbh. Voting members at the time of publication are marked with an asterisk (*).

When the IEEE 802.1 Working Group approved IEEE Std 802.1Qh, it had the following membership:

Tony Jeffree, *Chair*

Paul Congdon, *Vice Chair*

Stephen Haddock, *Chair, Interworking Task Group*

<<TBA>>

The following members of the balloting committee voted on P802.1Qbh. Balloters may have voted for approval, disapproval, or abstention.

<<TBA>>

When the IEEE-SA Standards Board approved this standard on <<TBA>>, it had the following membership:

???, *Chair*

???, *Vice Chair*

???, *Secretary*

<<TBA>>

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Draft Standard for Local and Metropolitan Area Networks— Virtual Bridged Local Area Networks — Amendment: Bridge Port Extension

Editorial Notes

This amendment specifies changes to IEEE Std 802.1Q-2011 that support connecting a Bridge Port to a Port Extender to extend the bridge MAC Relay functionality to the Ports provided by a Port Extender. Changes are applied to the base text of P802.1Q-2011 as amended by IEEE P802.1Qbb, P802.1Qbc, P802.1Qbe, P802.1Qbf, and P802.1Qbg. Text shown in ***bold italics*** in this amendment defines the editing instructions for 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.

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2. References

Insert the following reference in the appropriate location in this clause:

IEEE Std 802.1BR™, IEEE Standards for Local and Metropolitan Area Networks: Port Extenders.

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5. Conformance

Insert the following clause at the end of clause 5 re-numbering as appropriate:

5.21 Controlling Bridge Conformance

A conformant implementation of a Bridge can also operate as a Controlling Bridge in support of Bridge Port Extension as specified IEEE Std 802.1BR.

NOTE — The Controlling Bridge requirements specified in IEEE Std 802.1BR are intended to be combined with the requirements of a bridge system, such as a VLAN Bridge, a Provider Bridge, or a Backbone Edge Bridge, to form a Controlling Bridge of the corresponding type.

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43. Edge Control Protocol (ECP)

43.3.3.4 Sub-type

Insert the following row in table 43-1:

Table 43-1—ECP sub-types

PE CSP	0x0002
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Annex D

(normative)

IEEE 802.1 Organizationally Specific TLVs

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

Insert the Port Extension TLV to table D.1 allocating the next subtype and adjusting the reserved subtypes appropriately:

Table D.1—IEEE 802.1 Organizationally Specific TLVs

IEEE 802.1 subtype	TLV name	TLV set name	TLV reference	Feature clause reference
TBD	Port Extension	peSet	D.2.15	IEEE Std 802.1BR

D.2 Organizationally Specific TLV definitions

Insert the following at the end of D.2, re-numbering the paragraphs as needed:

D.2.15 Port Extension TLV

The Port Extension TLV is a TLV that allows a Bridge or Port Extender to advertise support for Bridge Port Extension on a given Port. Bridge Port Extension is specified in IEEE Std 802.1BR along with the terminology used in this subclause. Transmission by a Controlling Bridge indicates that the Port is, or is capable of, operating as a Cascade Port. Transmission by a Controlling Bridge through an Extended Port indicates that the Extended Port is, or is capable of, operating as a Cascade Port. Transmission by a Port Extender indicates that the Port is, or is capable of, operating as an Upstream Port. The value of Cascade Port Priority differentiates between Ports that operate as an Upstream Port versus those that operate as a Cascade Port.

Figure D-1 shows the Port Extension TLV format.

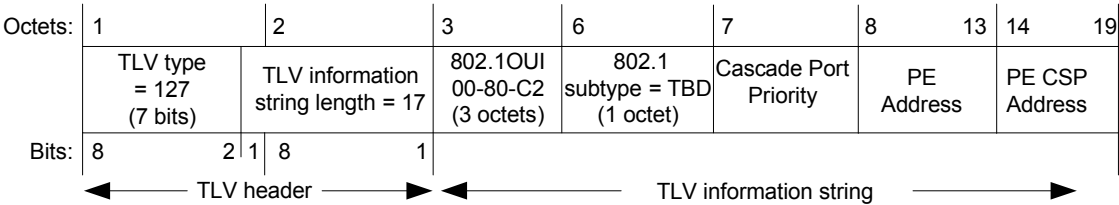


Figure D-1—Port Extension TLV format

D.2.15.1 Cascade Port Priority

When transmitted from a Port capable of operating as a cascade Port (e.g. Ports of a Controlling Bridge or Extended Ports of an Extended Bridge), indicates the `cascade_port_priority` used in determining which Port is to be used by a Port Extender as its Upstream Port. Valid values are the range from 0 to 254.

When transmitted from a Port Extender on an Upstream Port or a Port capable of becoming an Upstream Port, this parameter shall be set to 255.

D.2.15.2 PE Address

When emitted from a Port Extender, the PE Address contains an unique MAC address that identifies the Port Extender. This may be the same as the PE CSP address.

When emitted from a Controlling Bridge, the PE Address contains an unique MAC address that identifies the internal Port Extender.

D.2.15.3 PE CSP Address

Contains the MAC address that is to be used for transmission of the Port Extension Control and Status Protocol to the device emitting this TLV. An unique address is emitted from each Port.

D.4.2 Structure of the IEEE 802.1/LLDP extension MIB*Insert the following objects to table D-5 in the groups indicated:***Table D-5—IEEE 802.1/LLDP extension MIB object cross reference**

MIB table	MIB object	LLDP reference
<i>Configuration group</i>		
lldpXdot1PeConfigPortExtensionTable		Augments lldpV2Xdot1LocPortExtensionEntry
	lldpXdot1PeConfigPortExtensionTxEnable	D.2.15
<i>Local system information</i>		
lldpXdot1PeLocPortExtensionTable		
	lldpV2LocPortIfIndex	(Table index)
	lldpXdot1LocPeCascadePortPriority	D.2.15.1
	lldpXdot1LocPeAddress	D.2.15.2
	lldpXdot1LocPeCSPAAddress	D.2.15.3
<i>Remote system information</i>		
lldpXdot1PeRemPortExtensionTable		
	lldpV2RemTimeMark	(Table index)
	lldpV2RemLocalIfIndex	(Table index)
	lldpV2RemLocalDestMACAddress	(Table index)
	lldpV2RemIndex	(Table index)
	lldpXdot1PeCascadePortPriority	D.2.15.1
	lldpXdot1PeAddress	D.2.15.2
	lldpXdot1PeCSPAAddress	D.2.15.3

D.4.4 Security considerations for IEEE 802.1 LLDP extension MIB module*Insert the following objects to the list in D.4.4 of objects that can result in improper operation of LLDP when in transmit mode, re-lettering the list as appropriate:*

- g) lldpXdot1PeConfigPortExtensionTxEnable
- h) lldpXdot1PeLocPECascadePortPriority

Add the following objects to the list in D.4.4 of objects that may be considered sensitive or vulnerable in transmit mode:

- 10) lldpV2Xdot1LocPECascadePortPriority
- 11) lldpV2Xdot1LocPEAddress
- 12) lldpV2Xdot1LocPECSPAddress

Add the following objects to the list in D.4.4 of objects that may be considered sensitive or vulnerable in receive mode:

- 10) lldpV2Xdot1RemPECascadePortPriority
- 11) lldpV2Xdot1RemPEAddress
- 12) lldpV2Xdot1RemPECSPAddress

D.4.5 IEEE 802.1 LLDP extension MIB module - version 2^{51,52}

Delete the MIB module from D.4.5 and add the following MIB module:

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

```
IMPORTS
```

```
    MODULE-IDENTITY,  
    OBJECT-TYPE,  
    Unsigned32  
        FROM SNMPv2-SMI  
    TruthValue,  
    MacAddress,  
    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 "201106170000Z" -- June 17, 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 802.1Qbh-2011; see the standard itself for full legal notices."

REVISION "201106170000Z" -- June 17, 2011

DESCRIPTION

"Published as part of P802.1Qbh draft 2.1. No changes other than this text, the LAST-UPDATED clause, and some corrections to the DESCRIPTION."

REVISION "201103310000Z" -- March 31, 2011

DESCRIPTION

"Published as part of P802.1Qbh draft 2.0. Adds the Port Extension objects to the MIB module"

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."

```
1
2     REVISION "200906080000Z" -- June 08, 2009
3
4     DESCRIPTION
5         "Published as part of IEEE Std 802.1AB-2009 revision.
6         This revision incorporated changes to the MIB to
7         support the use of LLDP with multiple destination MAC
8         addresses, and to import the Link Aggregation TLV
9         from the 802.3 extension MIB"
10
11     -- OUI for IEEE 802.1 is 32962 (00-80-C2)
12     ::= { lldpV2Extensions 32962 }
13
14     -----
15     --
16     -- Organizationally Defined Information Extension - IEEE 802.1
17     -- Definitions to support the basicSet TLV set (Table D-1)
18     --
19     -----
20
21     lldpV2Xdot1Objects      OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 1 }
22
23     -- LLDP IEEE 802.1 extension MIB groups
24     lldpV2Xdot1Config      OBJECT IDENTIFIER ::= { lldpV2Xdot1Objects 1 }
25     lldpV2Xdot1LocalData   OBJECT IDENTIFIER ::= { lldpV2Xdot1Objects 2 }
26     lldpV2Xdot1RemoteData  OBJECT IDENTIFIER ::= { lldpV2Xdot1Objects 3 }
27
28     -----
29     -- IEEE 802.1 - Configuration for the basicSet TLV set
30     -----
31
32     --
33     -- lldpV2Xdot1ConfigPortVlanTable : configure the transmission of the
34     --                               Port VLAN-ID TLVs on set of ports.
35     --
36
37     lldpV2Xdot1ConfigPortVlanTable OBJECT-TYPE
38         SYNTAX      SEQUENCE OF LldpV2Xdot1ConfigPortVlanEntry
39         MAX-ACCESS   not-accessible
40         STATUS      current
41         DESCRIPTION
42             "A table that controls selection of LLDP Port VLAN-ID TLVs
43             to be transmitted on individual ports."
44             ::= { lldpV2Xdot1Config 1 }
45
46     lldpV2Xdot1ConfigPortVlanEntry OBJECT-TYPE
47         SYNTAX      LldpV2Xdot1ConfigPortVlanEntry
48         MAX-ACCESS   not-accessible
49         STATUS      current
50         DESCRIPTION
51             "LLDP configuration information that controls the
52             transmission of IEEE 802.1 organizationally defined Port
53             VLAN-ID TLV on LLDP transmission capable ports.
54
55             This configuration object augments the
56             lldpV2PortConfigEntry of the LLDP-MIB, therefore it is only
57             present along with the port configuration defined by the
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1         associated lldpV2PortConfigEntry entry.
2
3         Each active lldpConfigEntry is restored from non-volatile
4         storage (along with the corresponding
5         lldpV2PortConfigEntry) after a re-initialization of the
6         management system."
7     AUGMENTS { lldpV2PortConfigEntry }
8     ::= { lldpV2Xdot1ConfigPortVlanTable 1 }
9
10    LldpV2Xdot1ConfigPortVlanEntry ::= SEQUENCE {
11        lldpV2Xdot1ConfigPortVlanTxEnable TruthValue
12    }
13
14    lldpV2Xdot1ConfigPortVlanTxEnable OBJECT-TYPE
15        SYNTAX      TruthValue
16        MAX-ACCESS   read-write
17        STATUS       current
18        DESCRIPTION
19            "The lldpV2Xdot1ConfigPortVlanTxEnable, which is defined
20            as a truth value and configured by the network management,
21            determines whether the IEEE 802.1 organizationally defined
22            port VLAN TLV transmission is allowed on a given LLDP
23            transmission capable port.
24
25            The value of this object is restored from non-volatile
26            storage after a re-initialization of the management system."
27        REFERENCE
28            "9.1.2.1 of IEEE Std 802.1AB"
29        DEFVAL      { false }
30        ::= { lldpV2Xdot1ConfigPortVlanEntry 1 }
31
32    --
33    -- lldpV2Xdot1ConfigVlanNameTable : configure the transmission of the
34    --                               VLAN name instances on set of ports.
35    --
36
37    lldpV2Xdot1ConfigVlanNameTable OBJECT-TYPE
38        SYNTAX      SEQUENCE OF LldpV2Xdot1ConfigVlanNameEntry
39        MAX-ACCESS   not-accessible
40        STATUS       current
41        DESCRIPTION
42            "The table that controls selection of LLDP VLAN name TLV
43            instances to be transmitted on individual ports."
44        ::= { lldpV2Xdot1Config 2 }
45
46    lldpV2Xdot1ConfigVlanNameEntry OBJECT-TYPE
47        SYNTAX      LldpV2Xdot1ConfigVlanNameEntry
48        MAX-ACCESS   not-accessible
49        STATUS       current
50        DESCRIPTION
51            "LLDP configuration information that specifies the set of
52            ports (represented as a PortList) on which the Local System
53            VLAN name instance is transmitted.
54
55            This configuration object augments the lldpV2LocVlanEntry,
56            therefore it is only present along with the VLAN Name
57            instance contained in the associated lldpV2LocVlanNameEntry
58            entry."

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1
2      Each active lldpV2Xdot1ConfigVlanNameEntry is restored
3      from non-volatile storage (along with the corresponding
4      lldpV2Xdot1LocVlanNameEntry) after a re-initialization of
5      the management system."
6  AUGMENTS { lldpV2Xdot1LocVlanNameEntry }
7  ::= { lldpV2Xdot1ConfigVlanNameTable 1 }
8
9
10 lldpV2Xdot1ConfigVlanNameEntry ::= SEQUENCE {
11     lldpV2Xdot1ConfigVlanNameTxEnable  TruthValue
12 }
13
14 lldpV2Xdot1ConfigVlanNameTxEnable  OBJECT-TYPE
15     SYNTAX          TruthValue
16     MAX-ACCESS      read-write
17     STATUS          current
18     DESCRIPTION
19         "The boolean value that indicates whether the corresponding
20         Local System VLAN name instance is transmitted on the
21         port defined by the given lldpV2Xdot1LocVlanNameEntry.
22
23         The value of this object is restored from non-volatile
24         storage after a re-initialization of the management
25         system."
26     REFERENCE
27         "9.1.2.1 of IEEE Std 802.1AB"
28     DEFVAL { false }
29     ::= { lldpV2Xdot1ConfigVlanNameEntry 1 }
30
31 --
32 -- lldpV2Xdot1ConfigProtoVlanTable : configure the transmission of the
33 --                                protocol VLAN instances on set
34 --                                of ports.
35 --
36 lldpV2Xdot1ConfigProtoVlanTable OBJECT-TYPE
37     SYNTAX          SEQUENCE OF LldpV2Xdot1ConfigProtoVlanEntry
38     MAX-ACCESS      not-accessible
39     STATUS          current
40     DESCRIPTION
41         "The table that controls selection of LLDP Port and
42         Protocol VLAN ID TLV instances to be transmitted on
43         individual ports."
44     ::= { lldpV2Xdot1Config 3 }
45
46 lldpV2Xdot1ConfigProtoVlanEntry  OBJECT-TYPE
47     SYNTAX          LldpV2Xdot1ConfigProtoVlanEntry
48     MAX-ACCESS      not-accessible
49     STATUS          current
50     DESCRIPTION
51         "LLDP configuration information that specifies the set of
52         ports (represented as a PortList) on which the Local System
53         Protocol VLAN instance is transmitted.
54
55         This configuration object augments the
56         lldpV2Xdot1LocVlanEntry, therefore it is only present along

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1      with the Port and Protocol VLAN ID instance contained in
2      the associated lldpV2Xdot1LocVlanEntry entry.
3
4      Each active lldpV2Xdot1ConfigProtoVlanEntry is restored
5      from non-volatile storage (along with the corresponding
6      lldpV2Xdot1LocProtoVlanEntry) after a re-initialization of
7      the management system."
8
9      AUGMENTS { lldpV2Xdot1LocProtoVlanEntry }
10     ::= { lldpV2Xdot1ConfigProtoVlanTable 1 }
11
12     lldpV2Xdot1ConfigProtoVlanEntry ::= SEQUENCE {
13         lldpV2Xdot1ConfigProtoVlanTxEnable    TruthValue
14     }
15
16     lldpV2Xdot1ConfigProtoVlanTxEnable OBJECT-TYPE
17         SYNTAX             TruthValue
18         MAX-ACCESS         read-write
19         STATUS              current
20         DESCRIPTION
21             "The boolean value that indicates whether the corresponding
22             Local System Port and Protocol VLAN instance is
23             transmitted on the port defined by the given
24             lldpV2Xdot1LocProtoVlanEntry.
25
26             The value of this object is restored from non-volatile
27             storage after a re-initialization of the management system."
28         REFERENCE
29             "9.1.2.1 of IEEE Std 802.1AB"
30         DEFVAL { false }
31     ::= { lldpV2Xdot1ConfigProtoVlanEntry 1 }
32
33     --
34     -- lldpV2Xdot1ConfigProtocolTable : configure the transmission of the
35     --                               protocol instances on set
36     --                               of ports.
37     --
38     lldpV2Xdot1ConfigProtocolTable OBJECT-TYPE
39         SYNTAX             SEQUENCE OF LldpV2Xdot1ConfigProtocolEntry
40         MAX-ACCESS         not-accessible
41         STATUS              current
42         DESCRIPTION
43             "The table that controls selection of LLDP Protocol
44             TLV instances to be transmitted on individual ports."
45     ::= { lldpV2Xdot1Config 4 }
46
47     lldpV2Xdot1ConfigProtocolEntry OBJECT-TYPE
48         SYNTAX             LldpV2Xdot1ConfigProtocolEntry
49         MAX-ACCESS         not-accessible
50         STATUS              current
51         DESCRIPTION
52             "LLDP configuration information that specifies the set of
53             ports (represented as a PortList) on which the Local System
54             Protocol instance is transmitted.
55
56             This configuration object augments the

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1         lldpV2Xdot1LocProtoEntry, therefore it is only present
2         along with the Protocol instance contained in the
3         associated lldpV2Xdot1LocProtoEntry entry.
4
5         Each active lldpV2Xdot1ConfigProtocolEntry is restored
6         from non-volatile storage (along with the corresponding
7         lldpV2Xdot1LocProtocolEntry) after a re-initialization of
8         the management system."
9     AUGMENTS { lldpV2Xdot1LocProtocolEntry }
10    ::= { lldpV2Xdot1ConfigProtocolTable 1 }
11
12    lldpV2Xdot1ConfigProtocolEntry ::= SEQUENCE {
13        lldpV2Xdot1ConfigProtocolTxEnable    TruthValue
14    }
15
16    lldpV2Xdot1ConfigProtocolTxEnable    OBJECT-TYPE
17        SYNTAX          TruthValue
18        MAX-ACCESS      read-write
19        STATUS          current
20        DESCRIPTION
21            "The boolean value that indicates whether the corresponding
22            Local System Protocol Identity instance is transmitted
23            on the port defined by the given
24            lldpV2Xdot1LocProtocolEntry.
25
26            The value of this object is restored from non-volatile
27            storage after a re-initialization of the management
28            system."
29        REFERENCE
30            "9.1.2.1 of IEEE Std 802.1AB"
31        DEFVAL { false }
32    ::= { lldpV2Xdot1ConfigProtocolEntry 1 }
33
34    --
35    -- lldpV2Xdot1ConfigVidUsageDigestTable: configure the transmission
36    -- of the VID Usage Digest TLVs on set of ports.
37    --
38    lldpV2Xdot1ConfigVidUsageDigestTable OBJECT-TYPE
39        SYNTAX SEQUENCE OF lldpV2Xdot1ConfigVidUsageDigestEntry
40        MAX-ACCESS not-accessible
41        STATUS current
42        DESCRIPTION
43            "A table that controls selection of LLDP VID Usage Digest
44            TLVs to be transmitted on individual ports."
45    ::= { lldpV2Xdot1Config 5 }
46
47    lldpV2Xdot1ConfigVidUsageDigestEntry OBJECT-TYPE
48        SYNTAX lldpV2Xdot1ConfigVidUsageDigestEntry
49        MAX-ACCESS not-accessible
50        STATUS current
51        DESCRIPTION
52            "LLDP configuration information that specifies the set of
53            ports (represented as a PortList) on which the local
54            system VID Usage Digest instance will be transmitted.
55            This configuration object augments the
56            lldpLocVidUsageDigestEntry, therefore it is only present
57            along with the VID Usage Digest instance
58            contained in the associated lldpV2Xdot1LocVidUsageDigestEntry

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1         entry. Each active lldpConfigVidUsageDigestEntry must be
2         restored from non-volatile storage and re-created (along with
3         the corresponding lldpV2Xdot1LocVidUsageDigestEntry) after
4         a re-initialization of the management system."
5     AUGMENTS { lldpV2Xdot1LocVidUsageDigestEntry }
6 ::= { lldpV2Xdot1ConfigVidUsageDigestTable 1 }
7
8 lldpV2Xdot1ConfigVidUsageDigestEntry ::= SEQUENCE {
9     lldpV2Xdot1ConfigVidUsageDigestTxEnable TruthValue
10 }
11
12 lldpV2Xdot1ConfigVidUsageDigestTxEnable OBJECT-TYPE
13     SYNTAX TruthValue
14     MAX-ACCESS read-write
15     STATUS current
16     DESCRIPTION
17         "The boolean value that indicates whether the corresponding
18         Local System VID Usage Digest instance will be transmitted
19         on the port defined by the given
20         lldpV2Xdot1LocVidUsageDigestEntry. The value of this object
21         must be restored from non-volatile storage after a
22         reinitialization of the management system."
23     REFERENCE
24         "9.1.2.1 of IEEE Std 802.1AB"
25     DEFVAL { false }
26 ::= { lldpV2Xdot1ConfigVidUsageDigestEntry 1 }
27
28 --
29 -- lldpV2Xdot1ConfigManVidTable : configure the transmission of the
30 -- Management VID TLVs on set of ports.
31 --
32 lldpV2Xdot1ConfigManVidTable OBJECT-TYPE
33     SYNTAX SEQUENCE OF LldpV2Xdot1ConfigManVidEntry
34     MAX-ACCESS not-accessible
35     STATUS current
36     DESCRIPTION
37         "A table that controls selection of LLDP Management VID
38         TLVs to be transmitted on individual ports."
39 ::= { lldpV2Xdot1Config 6 }
40
41 lldpV2Xdot1ConfigManVidEntry OBJECT-TYPE
42     SYNTAX LldpV2Xdot1ConfigManVidEntry
43     MAX-ACCESS not-accessible
44     STATUS current
45     DESCRIPTION
46         "LLDP configuration information that specifies the set of
47         port/destination address pairs on which the Local
48         System Management VID will be transmitted.
49         This configuration object augments the
50         lldpV2Xdot1LocManVidEntry, therefore it is
51         only present along with the Management VID contained
52         in the associated lldpV2Xdot1LocManVidEntry entry.
53         Each active lldpV2Xdot1ConfigManVidEntry must be
54         restored from non-volatile storage (along with the
55         corresponding lldpV2Xdot1LocManVidEntry) after a
56         re-initialization of the management system."
57     AUGMENTS { lldpV2Xdot1LocManVidEntry }
58 ::= { lldpV2Xdot1ConfigManVidTable 1 }

```

```
1
2  LldpV2Xdot1ConfigManVidEntry ::= SEQUENCE {
3      lldpV2Xdot1ConfigManVidTxEnable TruthValue
4  }
5
6  lldpV2Xdot1ConfigManVidTxEnable OBJECT-TYPE
7      SYNTAX TruthValue
8      MAX-ACCESS read-write
9      STATUS current
10     DESCRIPTION
11         "The lldpV2Xdot1ConfigManVidTxEnable, which is defined as a
12         truth value and configured by the network management,
13         determines whether the IEEE 802.1 organizationally
14         defined Management VID TLV transmission is allowed on a given
15         LLDP transmission capable port.
16         The value of this object must be restored from
17         non-volatile storage after a re-initialization of the
18         management system."
19     REFERENCE
20         "9.1.2.1 of IEEE Std 802.1AB"
21     DEFVAL { false }
22 ::= { lldpV2Xdot1ConfigManVidEntry 1 }
23
24 -----
25 -- IEEE 802.1 - Local System Information
26 -----
27
28 --
29 -- lldpV2Xdot1LocTable - indexed by ifIndex.
30 --
31
32 lldpV2Xdot1LocTable OBJECT-TYPE
33     SYNTAX SEQUENCE OF LldpV2Xdot1LocEntry
34     MAX-ACCESS not-accessible
35     STATUS current
36     DESCRIPTION
37         "This table contains one row per port for IEEE 802.1
38         organizationally defined LLDP extension on the local system
39         known to this agent."
40 ::= { lldpV2Xdot1LocalData 1 }
41
42 lldpV2Xdot1LocEntry OBJECT-TYPE
43     SYNTAX LldpV2Xdot1LocEntry
44     MAX-ACCESS not-accessible
45     STATUS current
46     DESCRIPTION
47         "Information about IEEE 802.1 organizationally defined
48         LLDP extension."
49     INDEX { lldpV2LocPortIfIndex }
50 ::= { lldpV2Xdot1LocTable 1 }
51
52 lldpV2Xdot1LocEntry ::= SEQUENCE {
53     lldpV2Xdot1LocPortVlanId Unsigned32
54 }
```

```
1
2  lldpV2Xdot1LocPortVlanId OBJECT-TYPE
3      SYNTAX Unsigned32(0|1..4094)
4      MAX-ACCESS read-only
```



```

1      STATUS      current
2      DESCRIPTION
3          "The integer value used to identify the port's VLAN
4          identifier associated with the local system. A value
5          of zero shall be used if the system either does not know
6          the PVID or does
7          not support port-based VLAN operation."
8      REFERENCE
9          "D.2.1.1"
10     ::= { lldpV2Xdot1LocEntry 1 }
11
12
13     --
14     -- lldpV2Xdot1LocProtoVlanTable: Port and Protocol VLAN information
15     -- re-indexed by ifIndex.
16     --
17
18     lldpV2Xdot1LocProtoVlanTable OBJECT-TYPE
19         SYNTAX      SEQUENCE OF LldpV2Xdot1LocProtoVlanEntry
20         MAX-ACCESS  not-accessible
21         STATUS      current
22         DESCRIPTION
23             "This table contains one or more rows per Port and Protocol
24             VLAN information about the local system."
25         ::= { lldpV2Xdot1LocalData 2 }
26
27     lldpV2Xdot1LocProtoVlanEntry OBJECT-TYPE
28         SYNTAX      LldpV2Xdot1LocProtoVlanEntry
29         MAX-ACCESS  not-accessible
30         STATUS      current
31         DESCRIPTION
32             "Port and protocol VLAN ID Information about a particular
33             port component. There may be multiple port and protocol
34             VLANs, identified by a particular
35             lldpV2Xdot1LocProtoVlanId, configured on the given port."
36         INDEX      { lldpV2LocPortIfIndex,
37                     lldpV2Xdot1LocProtoVlanId }
38         ::= { lldpV2Xdot1LocProtoVlanTable 1 }
39
40     LldpV2Xdot1LocProtoVlanEntry ::= SEQUENCE {
41         lldpV2Xdot1LocProtoVlanId      Unsigned32,
42         lldpV2Xdot1LocProtoVlanSupported TruthValue,
43         lldpV2Xdot1LocProtoVlanEnabled TruthValue
44     }
45
46     lldpV2Xdot1LocProtoVlanId OBJECT-TYPE
47         SYNTAX      Unsigned32(0|1..4094)
48         MAX-ACCESS  not-accessible
49         STATUS      current
50         DESCRIPTION
51             "The integer value used to identify the port and protocol
52             VLANs associated with the given port associated with the
53             local system. A value of zero shall be used if the system
54             either does not know the protocol VLAN ID (PPVID) or does
55             not support port and protocol VLAN operation."
56         REFERENCE
57             "D.2.2.2"
58         ::= { lldpV2Xdot1LocProtoVlanEntry 1 }

```

```
1
2  lldpV2Xdot1LocProtoVlanSupported  OBJECT-TYPE
3      SYNTAX      TruthValue
4      MAX-ACCESS  read-only
5      STATUS      current
6      DESCRIPTION
7          "The truth value used to indicate whether the given port
8              (associated with the local system) supports port and
9              protocol VLANs."
10     REFERENCE
11         "D.2.2.1"
12     ::= { lldpV2Xdot1LocProtoVlanEntry 2 }
13
14 lldpV2Xdot1LocProtoVlanEnabled  OBJECT-TYPE
15     SYNTAX      TruthValue
16     MAX-ACCESS  read-only
17     STATUS      current
18     DESCRIPTION
19         "The truth value used to indicate whether the port and
20             protocol VLANs are enabled on the given port associated
21             with the local system."
22     REFERENCE
23         "D.2.2.1"
24     ::= { lldpV2Xdot1LocProtoVlanEntry 3 }
25
26 --
27 -- lldpV2Xdot1LocVlanNameTable : VLAN name information about the local
28 -- system indexed by ifIndex.
29 --
30 lldpV2Xdot1LocVlanNameTable  OBJECT-TYPE
31     SYNTAX      SEQUENCE OF LldpV2Xdot1LocVlanNameEntry
32     MAX-ACCESS  not-accessible
33     STATUS      current
34     DESCRIPTION
35         "This table contains one or more rows per IEEE 802.1Q VLAN
36             name information on the local system known to this agent."
37     ::= { lldpV2Xdot1LocalData 3 }
38
39 lldpV2Xdot1LocVlanNameEntry  OBJECT-TYPE
40     SYNTAX      LldpV2Xdot1LocVlanNameEntry
41     MAX-ACCESS  not-accessible
42     STATUS      current
43     DESCRIPTION
44         "VLAN name Information about a particular port component.
45             There may be multiple VLANs, identified by a particular
46             lldpV2Xdot1LocVlanId, configured on the given port."
47     INDEX      { lldpV2LocPortIfIndex,
48                   lldpV2Xdot1LocVlanId }
49     ::= { lldpV2Xdot1LocVlanNameTable 1 }
50
51 LldpV2Xdot1LocVlanNameEntry ::= SEQUENCE {
52     lldpV2Xdot1LocVlanId      VlanId,
53     lldpV2Xdot1LocVlanName    SnmpAdminString
54 }
55
56 lldpV2Xdot1LocVlanId  OBJECT-TYPE
```

```

1      SYNTAX      VlanId
2      MAX-ACCESS  not-accessible
3      STATUS      current
4      DESCRIPTION
5          "The integer value used to identify the IEEE 802.1Q
6          VLAN IDs with which the given port is compatible."
7      REFERENCE
8          "D.2.3.2"
9      ::= { lldpV2Xdot1LocVlanNameEntry 1 }
10
11 lldpV2Xdot1LocVlanName OBJECT-TYPE
12     SYNTAX      SnmpAdminString (SIZE(1..32))
13     MAX-ACCESS  read-only
14     STATUS      current
15     DESCRIPTION
16         "The string value used to identify VLAN name identified
17         by the Vlan Id associated with the given port on the
18         local system.
19
20         This object should contain the value of the
21         dot1QVLANStaticName object (defined in IETF RFC 4363)
22         identified with the given lldpV2Xdot1LocVlanId."
23     REFERENCE
24         "D.2.3.4"
25     ::= { lldpV2Xdot1LocVlanNameEntry 2 }
26
27 --
28 -- lldpV2Xdot1LocProtocolTable : Protocol Identity information
29 -- re-indexed by ifIndex and destination address
30 --
31 lldpV2Xdot1LocProtocolTable OBJECT-TYPE
32     SYNTAX      SEQUENCE OF LldpV2Xdot1LocProtocolEntry
33     MAX-ACCESS  not-accessible
34     STATUS      current
35     DESCRIPTION
36         "This table contains one or more rows per protocol identity
37         information on the local system known to this agent."
38     REFERENCE
39         "D.2.4"
40     ::= { lldpV2Xdot1LocalData 4 }
41
42 lldpV2Xdot1LocProtocolEntry OBJECT-TYPE
43     SYNTAX      LldpV2Xdot1LocProtocolEntry
44     MAX-ACCESS  not-accessible
45     STATUS      current
46     DESCRIPTION
47         "Information about particular protocols that are accessible
48         through the given port component.
49
50         There may be multiple protocols, identified by particular
51         lldpV2Xdot1ProtocolIndex, lldpV2LocPortIfIndex"
52     REFERENCE
53         "D.2.4"
54     INDEX      { lldpV2LocPortIfIndex,
55                  lldpV2Xdot1LocProtocolIndex }
56     ::= { lldpV2Xdot1LocProtocolTable 1 }

```

```
1
2 LldpV2Xdot1LocProtocolEntry ::= SEQUENCE {
3     lldpV2Xdot1LocProtocolIndex Unsigned32,
4     lldpV2Xdot1LocProtocolId    OCTET STRING
5 }
6
7 lldpV2Xdot1LocProtocolIndex OBJECT-TYPE
8     SYNTAX      Unsigned32(1..2147483647)
9     MAX-ACCESS  not-accessible
10    STATUS      current
11    DESCRIPTION
12        "This object represents an arbitrary local integer value
13         used by this agent to identify a particular protocol
14         identity."
15    ::= { lldpV2Xdot1LocProtocolEntry 1 }
16
17 lldpV2Xdot1LocProtocolId OBJECT-TYPE
18     SYNTAX      OCTET STRING (SIZE (1..255))
19     MAX-ACCESS  read-only
20     STATUS      current
21     DESCRIPTION
22         "The octet string value used to identify the protocols
23         associated with the given port of the local system."
24     REFERENCE
25         "D.2.4.3"
26     ::= { lldpV2Xdot1LocProtocolEntry 2 }
27
28 --
29 -- lldpV2Xdot1LocVidUsageDigestTable: Table of hash values of
30 -- system VID Usage Table transmitted
31 -- via VID Usage Digest TLV.
32 --
33
34 lldpV2Xdot1LocVidUsageDigestTable OBJECT-TYPE
35     SYNTAX      SEQUENCE OF LldpV2Xdot1LocVidUsageDigestEntry
36     MAX-ACCESS  not-accessible
37     STATUS      current
38     DESCRIPTION
39         "This table contains one row per ifIndex/
40         destination MAC address pair for usage digest
41         information on the local system known to this agent."
42     REFERENCE
43         "D.2.5"
44     ::= { lldpV2Xdot1LocalData 5 }
45
46 lldpV2Xdot1LocVidUsageDigestEntry OBJECT-TYPE
47     SYNTAX      LldpV2Xdot1LocVidUsageDigestEntry
48     MAX-ACCESS  not-accessible
49     STATUS      current
50     DESCRIPTION
51         "Usage digest information to be transmitted
52         through the given port."
53     REFERENCE
54         "D.2.5"
55     INDEX      { lldpV2LocPortIfIndex }
56     ::= { lldpV2Xdot1LocVidUsageDigestTable 1 }
```

```

1  LldpV2Xdot1LocVidUsageDigestEntry ::= SEQUENCE {
2      lldpV2Xdot1LocVidUsageDigest Unsigned32
3  }
4
5  lldpV2Xdot1LocVidUsageDigest OBJECT-TYPE
6      SYNTAX Unsigned32
7      MAX-ACCESS read-only
8      STATUS current
9      DESCRIPTION
10         "The integer value obtained by applying the CRC32 function
11         to the 128-octet VID Usage Table. A bit of the VID Usage
12         Table contains the value PBB-TE-USAGE (binary 1) if the
13         corresponding element of the MST Configuration Table
14         (IEEE Std 802.1Q 8.9.1) contains the value PBB-TE MSTID
15         (hex FFE) and otherwise contains the value NON-PBB-TE-USAGE
16         (binary 0)."
```

REFERENCE

```

17         "D.2.5.1"
18 ::= { lldpV2Xdot1LocVidUsageDigestEntry 1 }
19
20 --
21 -- lldpV2Xdot1LocManVidTable: Table of values configured on the Local
22 -- system for the Management VID, or the value 0 if a Management VID
23 -- has not been provisioned.
24 --
25
26 lldpV2Xdot1LocManVidTable OBJECT-TYPE
27     SYNTAX      SEQUENCE OF LldpV2Xdot1LocManVidEntry
28     MAX-ACCESS  not-accessible
29     STATUS      current
30     DESCRIPTION
31         "This table contains one row per ifIndex/
32         destination MAC address pair for usage digest
33         information on the local system known to this agent."
34     REFERENCE
35         "D.2.6"
36 ::= { lldpV2Xdot1LocalData 6 }
37
38 lldpV2Xdot1LocManVidEntry OBJECT-TYPE
39     SYNTAX      LldpV2Xdot1LocManVidEntry
40     MAX-ACCESS  not-accessible
41     STATUS      current
42     DESCRIPTION
43         "Usage digest information to be transmitted
44         through the given port."
45     REFERENCE
46         "D.2.6"
47     INDEX       { lldpV2LocPortIfIndex }
48 ::= { lldpV2Xdot1LocManVidTable 1 }
49
50 LldpV2Xdot1LocManVidEntry ::= SEQUENCE {
51     lldpV2Xdot1LocManVid Unsigned32
52 }
53
54 lldpV2Xdot1LocManVid OBJECT-TYPE
55     SYNTAX Unsigned32 (0|1..4094)
56     MAX-ACCESS read-only
57     STATUS current

```

```

1      DESCRIPTION
2          "The integer value configured on the Local system for
3          the Management VID, or
4          the value 0 if a Management VID has not been provisioned."
5      REFERENCE
6          "D.2.6.1"
7      ::= { lldpV2Xdot1LocManVidEntry 1 }
8
9      -----
10     -- IEEE 802.1 - Local System Information - Link Aggregation
11     -----
12
13     ---
14     ---
15     --- lldpV2Xdot1LocLinkAggTable: Link Aggregation Information Table
16     ---
17     ---
18     lldpV2Xdot1LocLinkAggTable OBJECT-TYPE
19         SYNTAX      SEQUENCE OF LldpV2Xdot1LocLinkAggEntry
20         MAX-ACCESS  not-accessible
21         STATUS      current
22         DESCRIPTION
23             "This table contains one row per port of link aggregation
24             information (as a part of the LLDP 802.1 organizational
25             extension) on the local system known to this agent."
26         ::= { lldpV2Xdot1LocalData 7 }
27
28     lldpV2Xdot1LocLinkAggEntry OBJECT-TYPE
29         SYNTAX      LldpV2Xdot1LocLinkAggEntry
30         MAX-ACCESS  not-accessible
31         STATUS      current
32         DESCRIPTION
33             "Link Aggregation information about a particular port
34             component."
35         INDEX       { lldpV2LocPortIfIndex }
36         ::= { lldpV2Xdot1LocLinkAggTable 1 }
37
38     LldpV2Xdot1LocLinkAggEntry ::= SEQUENCE {
39         lldpV2Xdot1LocLinkAggStatus      LldpV2LinkAggStatusMap,
40         lldpV2Xdot1LocLinkAggPortId      Unsigned32
41     }
42
43     lldpV2Xdot1LocLinkAggStatus OBJECT-TYPE
44         SYNTAX      LldpV2LinkAggStatusMap
45         MAX-ACCESS  read-only
46         STATUS      current
47         DESCRIPTION
48             "The bitmap value contains the link aggregation
49             capabilities and the current aggregation status of the
50             link."
51         REFERENCE
52             "D.2.7.1"
53         ::= { lldpV2Xdot1LocLinkAggEntry 1 }
54
55     lldpV2Xdot1LocLinkAggPortId OBJECT-TYPE
56         SYNTAX      Unsigned32(0|1..2147483647)
57         MAX-ACCESS  read-only
58         STATUS      current

```

```

1      DESCRIPTION
2          "This object contains the IEEE 802.1 aggregated port
3          identifier, aAggPortID (IEEE Std 802.1AX, 6.3.2.1.1),
4          derived from the ifNumber of the ifIndex for the port
5          component in link aggregation.
6
7          If the port is not in link aggregation state and/or it
8          does not support link aggregation, this value should be set
9          to zero."
10     REFERENCE
11         "D.2.7.1"
12     ::= { lldpV2Xdot1LocLinkAggEntry 2 }
13
14     -----
15     -- IEEE 802.1 - Remote System Information
16     -----
17
18     --
19     -- lldpV2Xdot1RemTable - re-indexed for ifIndex and destination MAC
20     -- address
21
22     lldpV2Xdot1RemTable OBJECT-TYPE
23         SYNTAX      SEQUENCE OF LldpV2Xdot1RemEntry
24         MAX-ACCESS   not-accessible
25         STATUS       current
26         DESCRIPTION
27             "This table contains one or more rows per physical network
28             connection known to this agent. The agent may wish to
29             ensure that only one lldpV2Xdot1RemEntry is present for
30             each local port, or it may choose to maintain multiple
31             lldpV2Xdot1RemEntries for the same local port."
32         ::= { lldpV2Xdot1RemoteData 1 }
33
34     lldpV2Xdot1RemEntry OBJECT-TYPE
35         SYNTAX      LldpV2Xdot1RemEntry
36         MAX-ACCESS   not-accessible
37         STATUS       current
38         DESCRIPTION
39             "Information about a particular port component."
40         INDEX       { lldpV2RemTimeMark,
41                     lldpV2RemLocalIfIndex,
42                     lldpV2RemLocalDestMACAddress,
43                     lldpV2RemIndex }
44         ::= { lldpV2Xdot1RemTable 1 }
45
46     LldpV2Xdot1RemEntry ::= SEQUENCE {
47         lldpV2Xdot1RemPortVlanId      Unsigned32
48     }
49
50     lldpV2Xdot1RemPortVlanId OBJECT-TYPE
51         SYNTAX      Unsigned32(0|1..4094)
52         MAX-ACCESS   read-only
53         STATUS       current
54         DESCRIPTION
55             "The integer value used to identify the port's VLAN
56             identifier associated with the remote system. if the
57             remote system either does not know the PVID or does not

```

```

1          support port-based VLAN operation, the value of
2          lldpV2Xdot1RemPortVlanId should be zero."
3  REFERENCE
4      "D.2.1.1"
5      ::= { lldpV2Xdot1RemEntry 1 }
6
7
8  --
9  -- lldpV2Xdot1RemProtoVlanTable - re-indexed by ifIndex and
10 -- destination MAC address
11 --
12
13 lldpV2Xdot1RemProtoVlanTable OBJECT-TYPE
14     SYNTAX      SEQUENCE OF LldpV2Xdot1RemProtoVlanEntry
15     MAX-ACCESS  not-accessible
16     STATUS      current
17     DESCRIPTION
18         "This table contains one or more rows per Port and Protocol
19         VLAN information about the remote system, received on the
20         given port."
21     ::= { lldpV2Xdot1RemoteData 2 }
22
23 lldpV2Xdot1RemProtoVlanEntry OBJECT-TYPE
24     SYNTAX      LldpV2Xdot1RemProtoVlanEntry
25     MAX-ACCESS  not-accessible
26     STATUS      current
27     DESCRIPTION
28         "Port and protocol VLAN name Information about a particular
29         port component. There may be multiple protocol VLANs,
30         identified by a particular lldpV2Xdot1RemProtoVlanId,
31         configured on the remote system."
32     INDEX      { lldpV2RemTimeMark,
33                 lldpV2RemLocalIfIndex,
34                 lldpV2RemLocalDestMACAddress,
35                 lldpV2RemIndex,
36                 lldpV2Xdot1RemProtoVlanId }
37     ::= { lldpV2Xdot1RemProtoVlanTable 1 }
38
39 lldpV2Xdot1RemProtoVlanEntry ::= SEQUENCE {
40     lldpV2Xdot1RemProtoVlanId      Unsigned32,
41     lldpV2Xdot1RemProtoVlanSupported TruthValue,
42     lldpV2Xdot1RemProtoVlanEnabled  TruthValue
43 }
44
45 lldpV2Xdot1RemProtoVlanId OBJECT-TYPE
46     SYNTAX      Unsigned32(0|1..4094)
47     MAX-ACCESS  not-accessible
48     STATUS      current
49     DESCRIPTION
50         "The integer value used to identify the port and protocol
51         VLANs associated with the given port associated with the
52         remote system.
53
54         If port and protocol VLANs are not supported on the given
55         port associated with the remote system, or if the port is
56         not enabled with any port and protocol VLAN, the value of
57         lldpV2Xdot1RemProtoVlanId should be zero."
58     REFERENCE

```



```

1      "D.2.2.2"
2      ::= { lldpV2Xdot1RemProtoVlanEntry 1 }
3
4      lldpV2Xdot1RemProtoVlanSupported OBJECT-TYPE
5          SYNTAX      TruthValue
6          MAX-ACCESS  read-only
7          STATUS      current
8          DESCRIPTION
9              "The truth value used to indicate whether the given port
10             (associated with the remote system) is capable of
11             supporting port and protocol VLANs."
12          REFERENCE
13              "D.2.2.1"
14      ::= { lldpV2Xdot1RemProtoVlanEntry 2 }
15
16      lldpV2Xdot1RemProtoVlanEnabled OBJECT-TYPE
17          SYNTAX      TruthValue
18          MAX-ACCESS  read-only
19          STATUS      current
20          DESCRIPTION
21              "The truth value used to indicate whether the port and
22             protocol VLANs are enabled on the given port associated
23             with
24             the remote system."
25          REFERENCE
26              "D.2.2.1"
27      ::= { lldpV2Xdot1RemProtoVlanEntry 3 }
28
29      --
30      -- lldpV2Xdot1RemVlanNameTable : VLAN name information of the remote
31      --                               systems
32      -- Re-indexed by ifIndex and destination MAC address
33      --
34      lldpV2Xdot1RemVlanNameTable OBJECT-TYPE
35          SYNTAX      SEQUENCE OF LldpV2Xdot1RemVlanNameEntry
36          MAX-ACCESS  not-accessible
37          STATUS      current
38          DESCRIPTION
39              "This table contains one or more rows per IEEE 802.1Q VLAN
40             name information about the remote system, received on the
41             given port."
42          REFERENCE
43              "D.2.3"
44      ::= { lldpV2Xdot1RemoteData 3 }
45
46      lldpV2Xdot1RemVlanNameEntry OBJECT-TYPE
47          SYNTAX      LldpV2Xdot1RemVlanNameEntry
48          MAX-ACCESS  not-accessible
49          STATUS      current
50          DESCRIPTION
51              "VLAN name Information about a particular port component.
52             There may be multiple VLANs, identified by a particular
53             lldpV2Xdot1RemVlanId, received on the given port."
54          INDEX      { lldpV2RemTimeMark,
55                     lldpV2RemLocalIfIndex,
56                     lldpV2RemLocalDestMACAddress,

```

```
1         lldpV2RemIndex,
2         lldpV2Xdot1RemVlanId }
3 ::= { lldpV2Xdot1RemVlanNameTable 1 }
4
5 LldpV2Xdot1RemVlanNameEntry ::= SEQUENCE {
6         lldpV2Xdot1RemVlanId      VlanId,
7         lldpV2Xdot1RemVlanName    SnmpAdminString
8     }
9
10 lldpV2Xdot1RemVlanId OBJECT-TYPE
11     SYNTAX      VlanId
12     MAX-ACCESS  not-accessible
13     STATUS      current
14     DESCRIPTION
15         "The integer value used to identify the IEEE 802.1Q
16         VLAN IDs with which the given port of the remote system
17         is compatible."
18     REFERENCE
19         "D.2.3.2"
20 ::= { lldpV2Xdot1RemVlanNameEntry 1 }
21
22 lldpV2Xdot1RemVlanName OBJECT-TYPE
23     SYNTAX      SnmpAdminString (SIZE(1..32))
24     MAX-ACCESS  read-only
25     STATUS      current
26     DESCRIPTION
27         "The string value used to identify VLAN name identified
28         by the VLAN Id associated with the remote system."
29     REFERENCE
30         "D.2.3.4"
31 ::= { lldpV2Xdot1RemVlanNameEntry 2 }
32
33 --
34 -- lldpV2Xdot1RemProtocolTable : Protocol information of the remote
35 -- systems Re-indexed by ifIndex and destination MAC address
36 --
37
38 lldpV2Xdot1RemProtocolTable OBJECT-TYPE
39     SYNTAX      SEQUENCE OF LldpV2Xdot1RemProtocolEntry
40     MAX-ACCESS  not-accessible
41     STATUS      current
42     DESCRIPTION
43         "This table contains one or more rows per protocol
44         information about the remote system, received on
45         the given port."
46 ::= { lldpV2Xdot1RemoteData 4 }
47
48 lldpV2Xdot1RemProtocolEntry OBJECT-TYPE
49     SYNTAX      LldpV2Xdot1RemProtocolEntry
50     MAX-ACCESS  not-accessible
51     STATUS      current
52     DESCRIPTION
53         "Protocol information about a particular port component.
54         There may be multiple protocols, identified by a particular
55         lldpV2Xdot1ProtocolIndex, received on the given port."
56     INDEX      { lldpV2RemTimeMark,
```

```

1         lldpV2RemLocalIfIndex,
2         lldpV2RemLocalDestMACAddress,
3         lldpV2RemIndex,
4         lldpV2Xdot1RemProtocolIndex }
5 ::= { lldpV2Xdot1RemProtocolTable 1 }
6
7 LldpV2Xdot1RemProtocolEntry ::= SEQUENCE {
8     lldpV2Xdot1RemProtocolIndex  Unsigned32,
9     lldpV2Xdot1RemProtocolId      OCTET STRING
10 }
11
12 lldpV2Xdot1RemProtocolIndex OBJECT-TYPE
13     SYNTAX      Unsigned32(1..2147483647)
14     MAX-ACCESS  not-accessible
15     STATUS      current
16     DESCRIPTION
17         "This object represents an arbitrary local integer value
18         used by this agent to identify a particular protocol
19         identity."
20 ::= { lldpV2Xdot1RemProtocolEntry 1 }
21
22 lldpV2Xdot1RemProtocolId OBJECT-TYPE
23     SYNTAX      OCTET STRING (SIZE (1..255))
24     MAX-ACCESS  read-only
25     STATUS      current
26     DESCRIPTION
27         "The octet string value used to identify the protocols
28         associated with the given port of remote system."
29     REFERENCE
30         "D.2.4.3"
31 ::= { lldpV2Xdot1RemProtocolEntry 2 }
32
33 --
34 -- lldpV2Xdot1RemVidUsageDigestTable: Table of hash values of
35 -- system VID Usage Table received
36 -- via VID Usage Digest TLV.
37 --
38
39 lldpV2Xdot1RemVidUsageDigestTable OBJECT-TYPE
40     SYNTAX      SEQUENCE OF LldpV2Xdot1RemVidUsageDigestEntry
41     MAX-ACCESS  not-accessible
42     STATUS      current
43     DESCRIPTION
44         "This table contains one row per ifIndex/
45         destination MAC address pair for usage digest
46         information received by the local system."
47     REFERENCE
48         "D.2.5"
49 ::= { lldpV2Xdot1RemoteData 5 }
50
51 lldpV2Xdot1RemVidUsageDigestEntry OBJECT-TYPE
52     SYNTAX      LldpV2Xdot1RemVidUsageDigestEntry
53     MAX-ACCESS  not-accessible
54     STATUS      current
55     DESCRIPTION
56         "Usage digest information received on

```

```
1         the given port/destination address pair."
2     REFERENCE
3         "D.2.5"
4     INDEX    { lldpV2RemTimeMark,
5                lldpV2RemLocalIfIndex,
6                lldpV2RemLocalDestMACAddress }
7     ::= { lldpV2Xdot1RemVidUsageDigestTable 1 }
8
9     LldpV2Xdot1RemVidUsageDigestEntry ::= SEQUENCE {
10         lldpV2Xdot1RemVidUsageDigest  Unsigned32
11     }
12
13     lldpV2Xdot1RemVidUsageDigest OBJECT-TYPE
14         SYNTAX  Unsigned32
15         MAX-ACCESS  read-only
16         STATUS  current
17         DESCRIPTION
18             "The integer value obtained by applying the CRC32 function
19             to the 128-octet VID Usage Table. A bit of the VID Usage
20             Table contains the value PBB-TE-USAGE (binary 1) if the
21             corresponding element of the MST Configuration Table
22             (IEEE Std 802.1Q 8.9.1) contains the value PBB-TE MSTID
23             (hex FFE) and otherwise contains the value NON-PBB-TE-USAGE
24             (binary 0)."
```

```

1      ::= { lldpV2Xdot1RemManVidTable 1 }
2
3      LldpV2Xdot1RemManVidEntry ::= SEQUENCE {
4          lldpV2Xdot1RemManVid          Unsigned32
5      }
6
7      lldpV2Xdot1RemManVid OBJECT-TYPE
8          SYNTAX Unsigned32 (0|1..4094)
9          MAX-ACCESS read-only
10         STATUS current
11         DESCRIPTION
12             "The integer value configured on a system for
13             the Management VID, or
14             the value 0 if a Management VID has not been provisioned."
15         REFERENCE
16             "D.2.6.1"
17     ::= { lldpV2Xdot1RemManVidEntry 1 }
18
19     -----
20     -- Remote System Information - Link Aggregation
21     -----
22
23     ---
24     ---
25     --- lldpV2Xdot1RemLinkAggTable: Link Aggregation Information Table
26     ---
27     ---
28     lldpV2Xdot1RemLinkAggTable OBJECT-TYPE
29         SYNTAX      SEQUENCE OF LldpV2Xdot1RemLinkAggEntry
30         MAX-ACCESS  not-accessible
31         STATUS      current
32         DESCRIPTION
33             "This table contains port link aggregation information
34             (as a part of the LLDP IEEE 802.1 organizational extension)
35             of the remote system."
36     ::= { lldpV2Xdot1RemoteData 7 }
37
38     lldpV2Xdot1RemLinkAggEntry OBJECT-TYPE
39         SYNTAX      LldpV2Xdot1RemLinkAggEntry
40         MAX-ACCESS  not-accessible
41         STATUS      current
42         DESCRIPTION
43             "Link Aggregation information about remote system's port
44             component."
45         INDEX      { lldpV2RemTimeMark,
46                     lldpV2RemLocalIfIndex,
47                     lldpV2RemLocalDestMACAddress,
48                     lldpV2RemIndex }
49     ::= { lldpV2Xdot1RemLinkAggTable 1 }
50
51     LldpV2Xdot1RemLinkAggEntry ::= SEQUENCE {
52         lldpV2Xdot1RemLinkAggStatus      LldpV2LinkAggStatusMap,
53         lldpV2Xdot1RemLinkAggPortId      Unsigned32
54     }
55
56     lldpV2Xdot1RemLinkAggStatus OBJECT-TYPE
57         SYNTAX      LldpV2LinkAggStatusMap

```

```

1      MAX-ACCESS    read-only
2      STATUS        current
3      DESCRIPTION
4          "The bitmap value contains the link aggregation capabilities
5          and the current aggregation status of the link."
6      REFERENCE
7          "D.2.7.1"
8      ::= { lldpV2Xdot1RemLinkAggEntry 1 }
9
10     lldpV2Xdot1RemLinkAggPortId OBJECT-TYPE
11         SYNTAX      Unsigned32(0|1..2147483647)
12         MAX-ACCESS  read-only
13         STATUS      current
14         DESCRIPTION
15             "This object contains the IEEE 802.1 aggregated port
16             identifier, aAggPortID (IEEE Std 802.1AX, 6.3.2.1.1),
17             derived from the ifNumber of the ifIndex for the port
18             component associated with the remote system.
19
20             If the remote port is not in link aggregation state and/or
21             it does not support link aggregation, this value should be
22             zero."
23         REFERENCE
24             "D.2.7.1"
25         ::= { lldpV2Xdot1RemLinkAggEntry 2 }
26
27     -----
28     -- Conformance Information for the basicSet TLV set
29     -----
30
31     lldpV2Xdot1Conformance
32         OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 2 }
33     lldpV2Xdot1Compliances
34         OBJECT IDENTIFIER ::= { lldpV2Xdot1Conformance 1 }
35     lldpV2Xdot1Groups
36         OBJECT IDENTIFIER ::= { lldpV2Xdot1Conformance 2 }
37
38     -- compliance statements
39
40     lldpV2Xdot1TxRxCompliance MODULE-COMPLIANCE
41         STATUS      current
42         DESCRIPTION
43             "A compliance statement for SNMP entities that implement
44             the IEEE 802.1 organizationally defined LLDP extension MIB.
45
46             This group is mandatory for all agents that implement the
47             LLDP 802.1 organizational extension in TX and/or RX mode
48             for the basicSet TLV set.
49
50             This version defines compliance requirements for
51             V2 of the LLDP MIB."
52         MODULE      -- this module
53             MANDATORY-GROUPS { lldpV2Xdot1ConfigGroup,
54                                 ifGeneralInformationGroup
55             }
56         ::= { lldpV2Xdot1Compliances 1 }

```

```

1
2  lldpV2Xdot1TxCompliance MODULE-COMPLIANCE
3      STATUS current
4      DESCRIPTION
5          "A compliance statement for SNMP entities that implement
6          the IEEE 802.1 organizationally defined LLDP extension MIB.
7
8          This group is mandatory for agents that implement the
9          LLDP 802.1 organizational extension in the RX mode
10         for the basicSet TLV set.
11
12         This version defines compliance requirements for
13         V2 of the LLDP MIB."
14  MODULE -- this module
15      MANDATORY-GROUPS { lldpV2Xdot1LocSysGroup }
16
17      ::= { lldpV2Xdot1Compliances 2 }
18
19  lldpV2Xdot1RxCompliance MODULE-COMPLIANCE
20      STATUS current
21      DESCRIPTION
22          "A compliance statement for SNMP entities that implement
23          the IEEE 802.1 organizationally defined LLDP extension MIB.
24
25          This group is mandatory for agents that implement the
26          LLDP 802.1 organizational extension in the RX mode
27          for the basicSet TLV set.
28
29          This version defines compliance requirements for
30          V2 of the LLDP MIB."
31  MODULE -- this module
32      MANDATORY-GROUPS { lldpV2Xdot1RemSysGroup }
33
34      ::= { lldpV2Xdot1Compliances 3 }
35
36  -- MIB groupings for the basicSet TLV set
37
38  lldpV2Xdot1ConfigGroup OBJECT-GROUP
39      OBJECTS {
40          lldpV2Xdot1ConfigPortVlanTxEnable,
41          lldpV2Xdot1ConfigVlanNameTxEnable,
42          lldpV2Xdot1ConfigProtoVlanTxEnable,
43          lldpV2Xdot1ConfigProtocolTxEnable,
44          lldpV2Xdot1ConfigVidUsageDigestTxEnable,
45          lldpV2Xdot1ConfigManVidTxEnable
46      }
47      STATUS current
48      DESCRIPTION
49          "The collection of objects which are used to configure the
50          IEEE 802.1 organizationally defined LLDP extension
51          implementation behavior for the basicSet TLV set."
52      ::= { lldpV2Xdot1Groups 1 }
53
54  lldpV2Xdot1LocSysGroup OBJECT-GROUP
55      OBJECTS {
56          lldpV2Xdot1LocPortVlanId,
57          lldpV2Xdot1LocProtoVlanSupported,
58          lldpV2Xdot1LocProtoVlanEnabled,
59          lldpV2Xdot1LocVlanName,

```

```
1      lldpV2Xdot1LocProtocolId,
2      lldpV2Xdot1LocVidUsageDigest,
3      lldpV2Xdot1LocManVid,
4      lldpV2Xdot1LocLinkAggStatus,
5      lldpV2Xdot1LocLinkAggPortId
6  }
7  STATUS    current
8  DESCRIPTION
9      "The collection of objects which are used to represent
10     IEEE 802.1 organizationally defined LLDP extension
11     associated with the Local Device Information for the
12     basicSet TLV set."
13 ::= { lldpV2Xdot1Groups 2 }
14
15 lldpV2Xdot1RemSysGroup OBJECT-GROUP
16     OBJECTS {
17         lldpV2Xdot1RemPortVlanId,
18         lldpV2Xdot1RemProtoVlanSupported,
19         lldpV2Xdot1RemProtoVlanEnabled,
20         lldpV2Xdot1RemVlanName,
21         lldpV2Xdot1RemProtocolId,
22         lldpV2Xdot1RemVidUsageDigest,
23         lldpV2Xdot1RemManVid,
24         lldpV2Xdot1RemLinkAggStatus,
25         lldpV2Xdot1RemLinkAggPortId
26     }
27 STATUS    current
28 DESCRIPTION
29     "The collection of objects which are used to represent LLDP
30     802.1 organizational extension Remote Device Information
31     for the basicSet TLV set."
32 ::= { lldpV2Xdot1Groups 3 }
33
34 -----
35 --
36 -- Organizationally Defined Information Extension - IEEE 802.1
37 -- Definitions to support the cnSet TLV set (Table D-1)
38 -- for Congestion Notification
39 --
40 -----
41
42 lldpXdot1CnMIB OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 3 }
43 lldpXdot1CnObjects OBJECT IDENTIFIER ::= { lldpXdot1CnMIB 1 }
44
45 -- CN 802.1 MIB Extension groups
46
47 lldpXdot1CnConfig OBJECT IDENTIFIER ::= { lldpXdot1CnObjects 1 }
48 lldpXdot1CnLocalData OBJECT IDENTIFIER ::= { lldpXdot1CnObjects 2 }
49 lldpXdot1CnRemoteData OBJECT IDENTIFIER ::= { lldpXdot1CnObjects 3 }
50
51 -----
52 -- Textual conventions for Congestion Notification
53 -----
54
55 LldpV2CnBitVector ::= TEXTUAL-CONVENTION
56     STATUS    current
57     DESCRIPTION
```



```

1      "This TC describes a bit vector used in the Congestion
2      Notification objects. Each bit represents a Boolean status
3      associated with a priority code point. A bit value of 0
4      represents FALSE, 1 represents TRUE.
5
6      The bit 'pri0status(0)' indicates the status for priority 0
7      The bit 'pri1status(1)' indicates the status for priority 1
8      The bit 'pri2status(2)' indicates the status for priority 2
9      The bit 'pri3status(3)' indicates the status for priority 3
10     The bit 'pri4status(4)' indicates the status for priority 4
11     The bit 'pri5status(5)' indicates the status for priority 5
12     The bit 'pri6status(6)' indicates the status for priority 6
13     The bit 'pri7status(7)' indicates the status for priority 7"
14
15     SYNTAX BITS {
16         pri0status(0),
17         pri1status(1),
18         pri2status(2),
19         pri3status(3),
20         pri4status(4),
21         pri5status(5),
22         pri6status(6),
23         pri7status(7)
24     }
25
26     -----
27     -- IEEE 802.1 - Congestion Notification Configuration
28     -----
29
30     --
31     -- lldpXdot1CnConfigCnTable : configure the
32     -- transmission of the Congestion Notification TLV on a set of ports
33     --
34
35     lldpXdot1CnConfigCnTable OBJECT-TYPE
36         SYNTAX      SEQUENCE OF LldpXdot1CnConfigCnEntry
37         MAX-ACCESS   not-accessible
38         STATUS       current
39         DESCRIPTION
40             "A table that controls selection of Congestion Notification
41             TLVs to be transmitted on individual ports."
42             ::= { lldpXdot1CnConfig 1 }
43
44     lldpXdot1CnConfigCnEntry OBJECT-TYPE
45         SYNTAX      LldpXdot1CnConfigCnEntry
46         MAX-ACCESS   not-accessible
47         STATUS       current
48         DESCRIPTION
49             "LLDP configuration information that controls the
50             transmission of IEEE 802.1 organizationally defined
51             Congestion Notification TLV on LLDP transmission capable ports.
52
53             This configuration object augments the lldpV2PortConfigEntry of
54             the LLDP-MIB, therefore it is only present along with the port
55             configuration defined by the associated lldpV2PortConfigEntry
56             entry.
57
58             Each active lldpConfigEntry is restored from non-volatile
59             storage (along with the corresponding lldpV2PortConfigEntry)

```

```

1      after a re-initialization of the management system."
2      AUGMENTS      { lldpV2PortConfigEntry }
3      ::= { lldpXdot1CnConfigCnTable 1 }
4
5      lldpXdot1CnConfigCnEntry ::= SEQUENCE {
6          lldpXdot1CnConfigCnTxEnable TruthValue
7      }
8
9      lldpXdot1CnConfigCnTxEnable OBJECT-TYPE
10         SYNTAX      TruthValue
11         MAX-ACCESS   read-write
12         STATUS      current
13         DESCRIPTION
14             "The lldpXdot1CnConfigCnTxEnable, which is
15             defined as a truth value and configured by the network
16             management, determines whether the IEEE 802.1 organizationally
17             defined Congestion Notification TLV transmission is allowed
18             on a given LLDP transmission capable port.
19
20             The value of this object is restored from non-volatile
21             storage after a re-initialization of the management system."
22         REFERENCE
23             "D.2.8"
24         DEFVAL      { false }
25         ::= { lldpXdot1CnConfigCnEntry 1 }
26
27 -----
28 -- IEEE 802.1 - Congestion Notification Local System Information
29 -----
30
31 ---
32 ---
33 --- lldpV2Xdot1LocCnTable: Port Extension Information Table
34 ---
35 ---
36
37 lldpV2Xdot1LocCnTable OBJECT-TYPE
38     SYNTAX      SEQUENCE OF LldpV2Xdot1LocCnEntry
39     MAX-ACCESS   not-accessible
40     STATUS      current
41     DESCRIPTION
42         "This table contains one row per port of Congestion
43         Notification information (as a part of the LLDP
44         802.1 organizational extension) on the local system
45         known to this agent."
46     ::= { lldpXdot1CnLocalData 1 }
47
48 lldpV2Xdot1LocCnEntry OBJECT-TYPE
49     SYNTAX      LldpV2Xdot1LocCnEntry
50     MAX-ACCESS   not-accessible
51     STATUS      current
52     DESCRIPTION
53         "Congestion Notification information about a
54         particular port component."
55     INDEX      { lldpV2LocPortIfIndex }
56     ::= { lldpV2Xdot1LocCnTable 1 }
57
58 lldpV2Xdot1LocCnEntry ::= SEQUENCE {
59     lldpV2Xdot1LocCNPVIndicators      LldpV2CnBitVector,
60     lldpV2Xdot1LocReadyIndicators      LldpV2CnBitVector

```

```

1      }
2
3      lldpV2Xdot1LocCNPVIndicators OBJECT-TYPE
4          SYNTAX      LldpV2CnBitVector
5          MAX-ACCESS  read-only
6          STATUS      current
7          DESCRIPTION
8              "This object contains the CNPV indicators
9              for the Port."
10         REFERENCE
11             "D.2.8.3"
12         ::= { lldpV2Xdot1LocCnEntry 1 }
13
14     lldpV2Xdot1LocReadyIndicators OBJECT-TYPE
15         SYNTAX      LldpV2CnBitVector
16         MAX-ACCESS  read-only
17         STATUS      current
18         DESCRIPTION
19             "This object contains the Ready indicators
20             for the Port."
21         REFERENCE
22             "D.2.8.4"
23         ::= { lldpV2Xdot1LocCnEntry 2 }
24
25     -----
26     -- IEEE 802.1 - Congestion Notification Remote System Information
27     -----
28
29     ---
30     --- lldpV2Xdot1RemCnTable: Port Extension Information Table
31     ---
32
33     lldpV2Xdot1RemCnTable OBJECT-TYPE
34         SYNTAX      SEQUENCE OF LldpV2Xdot1RemCnEntry
35         MAX-ACCESS  not-accessible
36         STATUS      current
37         DESCRIPTION
38             "This table contains Congestion Notification information
39             (as a part of the LLDP IEEE 802.1 organizational extension)
40             of the remote system."
41         ::= { lldpXdot1CnRemoteData 1 }
42
43     lldpV2Xdot1RemCnEntry OBJECT-TYPE
44         SYNTAX      LldpV2Xdot1RemCnEntry
45         MAX-ACCESS  not-accessible
46         STATUS      current
47         DESCRIPTION
48             "Port Extension information about remote systems port
49             component."
50         INDEX      { lldpV2RemTimeMark,
51                     lldpV2RemLocalIfIndex,
52                     lldpV2RemLocalDestMACAddress,
53                     lldpV2RemIndex }
54         ::= { lldpV2Xdot1RemCnTable 1 }
55
56     LldpV2Xdot1RemCnEntry ::= SEQUENCE {
57         lldpV2Xdot1RemCNPVIndicators      LldpV2CnBitVector,
58         lldpV2Xdot1RemReadyIndicators      LldpV2CnBitVector
59     }

```

```
1      }
2
3      lldpV2Xdot1RemCNPVIndicators OBJECT-TYPE
4          SYNTAX      LldpV2CnBitVector
5          MAX-ACCESS   read-only
6          STATUS       current
7          DESCRIPTION
8              "This object contains the CNPV indicators
9              for the Port."
10         REFERENCE
11             "D.2.8.3"
12         ::= { lldpV2Xdot1RemCnEntry 1 }
13
14     lldpV2Xdot1RemReadyIndicators OBJECT-TYPE
15         SYNTAX      LldpV2CnBitVector
16         MAX-ACCESS   read-only
17         STATUS       current
18         DESCRIPTION
19             "This object contains the Ready indicators
20             for the Port."
21         REFERENCE
22             "D.2.8.4"
23         ::= { lldpV2Xdot1RemCnEntry 2 }
24
25     -----
26     -- IEEE 802.1 - Congestion Notification Conformance Information
27     -----
28
29     lldpXdot1CnConformance OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 4 }
30
31     lldpXdot1CnCompliances
32         OBJECT IDENTIFIER ::= { lldpXdot1CnConformance 1 }
33     lldpXdot1CnGroups OBJECT IDENTIFIER ::= { lldpXdot1CnConformance 2 }
34
35     --
36     -- Congestion Notification - Compliance Statements
37     --
38
39     lldpXdot1CnCompliance MODULE-COMPLIANCE
40         STATUS       current
41         DESCRIPTION
42             "A compliance statement for SNMP entities that implement
43             the IEEE 802.1 organizationally defined Congestion
44             Notification LLDP extension MIB.
45
46             This group is mandatory for agents that implement the
47             Congestion Notification cnSet TLV set."
48         MODULE       -- this module
49             MANDATORY-GROUPS { lldpXdot1CnGroup,
50                               ifGeneralInformationGroup }
51         ::= { lldpXdot1CnCompliances 1 }
52
53     --
54     -- Congestion Notification - MIB groupings
55     --
56
57     lldpXdot1CnGroup OBJECT-GROUP
58         OBJECTS {
59             lldpXdot1CnConfigCnTxEnable,
```

```

1      lldpV2Xdot1LocCNPVIndicators,
2      lldpV2Xdot1LocReadyIndicators,
3      lldpV2Xdot1RemCNPVIndicators,
4      lldpV2Xdot1RemReadyIndicators
5  }
6  STATUS current
7  DESCRIPTION
8      "The collection of objects that support the
9      Congestion Notification cnSet TLV set."
10 ::= { lldpXdot1CnGroups 1 }
11
12 -----
13 --
14 -- Organizationally Defined Information Extension - IEEE 802.1
15 -- Definitions to support the Data Center eXchange Protocol
16 -- (DCBX) TLV set (Table D-1)
17 --
18 -----
19 lldpXdot1dcbxMIB OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 5 }
20 lldpXdot1dcbxObjects OBJECT IDENTIFIER ::= { lldpXdot1dcbxMIB 1 }
21
22 -- DCBX 802.1 MIB Extension groups
23
24 lldpXdot1dcbxConfig OBJECT IDENTIFIER ::= { lldpXdot1dcbxObjects 1 }
25 lldpXdot1dcbxLocalData OBJECT IDENTIFIER ::= { lldpXdot1dcbxObjects 2 }
26 lldpXdot1dcbxRemoteData OBJECT IDENTIFIER ::= { lldpXdot1dcbxObjects 3 }
27 lldpXdot1dcbxAdminData OBJECT IDENTIFIER ::= { lldpXdot1dcbxObjects 4 }
28
29 -----
30 -- IEEE 802.1 - DCBX Textual Conventions
31 -----
32 LldpXdot1dcbxTrafficClassValue ::= TEXTUAL-CONVENTION
33     DISPLAY-HINT "d"
34     STATUS current
35     DESCRIPTION
36         "Indicates a traffic class. Values 0-7 correspond to
37         traffic classes."
38     SYNTAX Unsigned32 (0..7)
39
40 LldpXdot1dcbxTrafficClassBandwidthValue ::= TEXTUAL-CONVENTION
41     DISPLAY-HINT "d"
42     STATUS current
43     DESCRIPTION
44         "Indicates the bandwidth in percent assigned to a
45         traffic class."
46     SYNTAX Unsigned32 (0..100)
47
48 LldpXdot1dcbxAppSelector ::= TEXTUAL-CONVENTION
49     STATUS current
50     DESCRIPTION
51         "Indicates the contents of a protocol object
52         1: Ethertype
53         2: Well Known Port number over TCP, or SCTP
54         3: Well Known Port number over UDP, or DCCP
55         4: Well Known Port number over TCP, SCTP, UDP, and DCCP"
56     SYNTAX INTEGER {

```

```

1      asEthertype(1),
2      asTCPPortNumber(2),
3      asUDPPortNumber(3),
4      asTCPUDPPortNumber(4)
5  }
6
7  LldpXdot1dcbxAppProtocol ::= TEXTUAL-CONVENTION
8      DISPLAY-HINT "d"
9      STATUS          current
10     DESCRIPTION
11         "Contains the application protocol indicator the
12         type of which is specified by an object with
13         the syntax of
14         LldpXdot1dcbxAppSelector"
15     SYNTAX Unsigned32 (0..65535)
16
17 LldpXdot1dcbxSupportedCapacity ::= TEXTUAL-CONVENTION
18     DISPLAY-HINT "d"
19     STATUS          current
20     DESCRIPTION
21         "Indicates the supported capacity of a given feature,
22         for example, the number of traffic classes supported.
23         This TC is used for features that have a maximum
24         capacity of eight and a minimum of one."
25     SYNTAX Unsigned32 (1..8)
26
27 LldpXdot1dcbxTrafficSelectionAlgorithm ::= TEXTUAL-CONVENTION
28     STATUS          current
29     DESCRIPTION
30         "Indicates the Traffic Selection Algorithm
31         0: Strict Priority
32         1: Credit-based shaper
33         2: Enhanced transmission selection
34         3-254: Reserved for future standardization
35         255: Vendor specific"
36     SYNTAX INTEGER {
37         tsaStrictPriority(0),
38         tsaCreditBasedShaper(1),
39         tsaEnhancedTransmission(2),
40         tsaVendorSpecific(255)
41     }
42
43 -----
44 -- IEEE 802.1 - DCBX Configuration
45 -----
46
47 --
48 -- lldpXdot1dcbxConfigETSConfigurationTable : configure the
49 -- transmission of the ETS Configuration TLV on a set of ports
50 --
51
52 lldpXdot1dcbxConfigETSConfigurationTable OBJECT-TYPE
53     SYNTAX          SEQUENCE OF LldpXdot1dcbxConfigETSConfigurationEntry
54     MAX-ACCESS      not-accessible
55     STATUS          current
56     DESCRIPTION
57         "A table that controls selection of ETS Configuration
58         TLVs to be transmitted on individual ports."
59 ::= { lldpXdot1dcbxConfig 1 }

```

```

1
2  lldpXdot1dcbxConfigETSConfigurationEntry OBJECT-TYPE
3      SYNTAX          LldpXdot1dcbxConfigETSConfigurationEntry
4      MAX-ACCESS      not-accessible
5      STATUS          current
6      DESCRIPTION
7          "LLDP configuration information that controls the
8          transmission of IEEE 802.1 organizationally defined
9          ETS Configuration TLV on LLDP transmission capable ports.
10
11          This configuration object augments the lldpV2PortConfigEntry of
12          the LLDP-MIB, therefore it is only present along with the port
13          configuration defined by the associated lldpV2PortConfigEntry
14          entry.
15
16          Each active lldpConfigEntry is restored from non-volatile
17          storage (along with the corresponding lldpV2PortConfigEntry)
18          after a re-initialization of the management system."
19      AUGMENTS         { lldpV2PortConfigEntry }
20      ::= { lldpXdot1dcbxConfigETSConfigurationTable 1 }
21
22  lldpXdot1dcbxConfigETSConfigurationEntry ::= SEQUENCE {
23      lldpXdot1dcbxConfigETSConfigurationTxEnable TruthValue
24  }
25
26  lldpXdot1dcbxConfigETSConfigurationTxEnable OBJECT-TYPE
27      SYNTAX          TruthValue
28      MAX-ACCESS      read-write
29      STATUS          current
30      DESCRIPTION
31          "The lldpXdot1dcbxConfigETSConfigurationTxEnable, which is
32          defined as a truth value and configured by the network
33          management, determines whether the IEEE 802.1 organizationally
34          defined ETS Configuration TLV transmission is allowed on a
35          given LLDP transmission capable port.
36
37          The value of this object is restored from non-volatile
38          storage after a re-initialization of the management system."
39      REFERENCE
40          "D.2.9"
41      DEFVAL          { false }
42      ::= { lldpXdot1dcbxConfigETSConfigurationEntry 1 }
43
44  --
45  -- lldpXdot1dcbxConfigETSRecommendationTable : configure the
46  -- transmission of the ETS Recommendation TLV on a set of ports
47  --
48
49  lldpXdot1dcbxConfigETSRecommendationTable OBJECT-TYPE
50      SYNTAX          SEQUENCE OF LldpXdot1dcbxConfigETSRecommendationEntry
51      MAX-ACCESS      not-accessible
52      STATUS          current
53      DESCRIPTION
54          "A table that controls selection of ETS Recommendation
55          TLVs to be transmitted on individual ports."
56      ::= { lldpXdot1dcbxConfig 2 }
57
58  lldpXdot1dcbxConfigETSRecommendationEntry OBJECT-TYPE
59      SYNTAX          LldpXdot1dcbxConfigETSRecommendationEntry

```

```
1      MAX-ACCESS      not-accessible
2      STATUS          current
3      DESCRIPTION
4          "LLDP configuration information that controls the
5          transmission of IEEE 802.1 organizationally defined
6          ETS Recommendation TLV on LLDP transmission capable ports.
7
8          This configuration object augments the lldpV2PortConfigEntry of
9          the LLDP-MIB, therefore it is only present along with the port
10         configuration defined by the associated lldpV2PortConfigEntry
11         entry.
12
13         Each active lldpConfigEntry is restored from non-volatile
14         storage (along with the corresponding lldpV2PortConfigEntry)
15         after a re-initialization of the management system."
16     AUGMENTS          { lldpV2PortConfigEntry }
17     ::= { lldpXdot1dcbxConfigETSRecommendationTable 1 }
18
19 LldpXdot1dcbxConfigETSRecommendationEntry ::= SEQUENCE {
20     lldpXdot1dcbxConfigETSRecommendationTxEnable TruthValue
21 }
22
23 lldpXdot1dcbxConfigETSRecommendationTxEnable OBJECT-TYPE
24     SYNTAX          TruthValue
25     MAX-ACCESS      read-write
26     STATUS          current
27     DESCRIPTION
28         "The lldpXdot1dcbxConfigETSRecommendationTxEnable, which is
29         defined as a truth value and configured by the network
30         management, determines whether the IEEE 802.1 organizationally
31         defined ETS Recommendation TLV transmission is allowed on a
32         given LLDP transmission capable port.
33
34         The value of this object is restored from non-volatile
35         storage after a re-initialization of the management system."
36     REFERENCE
37         "D.2.10"
38     DEFVAL          { false }
39     ::= { lldpXdot1dcbxConfigETSRecommendationEntry 1 }
40
41 --
42 -- lldpXdot1dcbxConfigPFCTable : configure the transmission of the
43 -- Priority-based Flow Control TLV on a set of ports
44 --
45
46 lldpXdot1dcbxConfigPFCTable OBJECT-TYPE
47     SYNTAX          SEQUENCE OF LldpXdot1dcbxConfigPFCEnt
48     MAX-ACCESS      not-accessible
49     STATUS          current
50     DESCRIPTION
51         "A table that controls selection of Priority-based
52         Flow Control TLVs to be transmitted on individual ports."
53     ::= { lldpXdot1dcbxConfig 3 }
54
55 lldpXdot1dcbxConfigPFCEnt OBJECT-TYPE
56     SYNTAX          LldpXdot1dcbxConfigPFCEnt
57     MAX-ACCESS      not-accessible
58     STATUS          current
59     DESCRIPTION
60         "LLDP configuration information that controls the
```



```

1      transmission of IEEE 802.1 organizationally defined
2      Priority-based Flow Control TLV on LLDP transmission
3      capable ports.
4
5      This configuration object augments the lldpV2PortConfigEntry of
6      the LLDP-MIB, therefore it is only present along with the port
7      configuration defined by the associated lldpV2PortConfigEntry
8      entry.
9
10     Each active lldpConfigEntry is restored from non-volatile
11     storage (along with the corresponding lldpV2PortConfigEntry)
12     after a re-initialization of the management system."
13     AUGMENTS      { lldpV2PortConfigEntry }
14     ::= { lldpXdot1dcbxConfigPFCTable 1 }
15
16     lldpXdot1dcbxConfigPFCTxEnable ::= SEQUENCE {
17         lldpXdot1dcbxConfigPFCTxEnable TruthValue
18     }
19
20     lldpXdot1dcbxConfigPFCTxEnable OBJECT-TYPE
21     SYNTAX          TruthValue
22     MAX-ACCESS      read-write
23     STATUS          current
24     DESCRIPTION
25         "The lldpXdot1dcbxConfigPFCTxEnable, which is defined
26         as a truth value and configured by the network management,
27         determines whether the IEEE 802.1 organizationally defined
28         Priority-based Flow Control TLV transmission is allowed on
29         a given LLDP transmission capable port.
30
31         The value of this object is restored from non-volatile
32         storage after a re-initialization of the management system."
33     REFERENCE
34         "D.2.11"
35     DEFVAL          { false }
36     ::= { lldpXdot1dcbxConfigPFCTable 1 }
37
38     --
39     -- lldpXdot1dcbxConfigApplicationPriorityTable : configure the
40     -- transmission of the Application Priority TLV on a set of ports
41     --
42
43     lldpXdot1dcbxConfigApplicationPriorityTable OBJECT-TYPE
44     SYNTAX          SEQUENCE OF
45         lldpXdot1dcbxConfigApplicationPriorityEntry
46     MAX-ACCESS      not-accessible
47     STATUS          current
48     DESCRIPTION
49         "A table that controls selection of Priority-based
50         Flow Control TLVs to be transmitted on individual ports."
51     ::= { lldpXdot1dcbxConfig 4 }
52
53     lldpXdot1dcbxConfigApplicationPriorityEntry OBJECT-TYPE
54     SYNTAX          LldpXdot1dcbxConfigApplicationPriorityEntry
55     MAX-ACCESS      not-accessible
56     STATUS          current
57     DESCRIPTION
58         "LLDP configuration information that controls the
59         transmission of IEEE 802.1 organizationally defined

```

```

1      Application Priority TLV on LLDP transmission capable ports.
2
3      This configuration object augments the lldpV2PortConfigEntry of
4      the LLDP-MIB, therefore it is only present along with the port
5      configuration defined by the associated lldpV2PortConfigEntry
6      entry.
7
8      Each active lldpConfigEntry is restored from non-volatile
9      storage (along with the corresponding lldpV2PortConfigEntry)
10     after a re-initialization of the management system."
11     AUGMENTS      { lldpV2PortConfigEntry }
12     ::= { lldpXdot1dcbxConfigApplicationPriorityTable 1 }
13
14     lldpXdot1dcbxConfigApplicationPriorityEntry ::= SEQUENCE {
15         lldpXdot1dcbxConfigApplicationPriorityTxEnable TruthValue
16     }
17
18     lldpXdot1dcbxConfigApplicationPriorityTxEnable OBJECT-TYPE
19     SYNTAX      TruthValue
20     MAX-ACCESS   read-write
21     STATUS      current
22     DESCRIPTION
23         "The lldpXdot1dcbxConfigApplicationPriorityTxEnable, which
24         is defined as a truth value and configured by the network
25         management, determines whether the IEEE 802.1 organizationally
26         defined Application Priority TLV transmission is allowed on
27         a given LLDP transmission capable port.
28
29         The value of this object is restored from non-volatile
30         storage after a re-initialization of the management system."
31     REFERENCE
32         "D.2.12"
33     DEFVAL      { false }
34     ::= { lldpXdot1dcbxConfigApplicationPriorityEntry 1 }
35
36     -----
37     -- IEEE 802.1 - DCBX Local System Information
38     -----
39
40     --
41     -- lldpXdot1dcbxLocETSConfigurationTable - Contains the information
42     -- for the ETS Configuration TLV.
43     --
44     lldpXdot1dcbxLocETSConfiguration OBJECT IDENTIFIER
45     ::= { lldpXdot1dcbxLocalData 1 }
46
47     lldpXdot1dcbxLocETSBasicConfigurationTable OBJECT-TYPE
48     SYNTAX      SEQUENCE OF LldpXdot1dcbxLocETSBasicConfigurationEntry
49     MAX-ACCESS   not-accessible
50     STATUS      current
51     DESCRIPTION
52         "This table contains one row per port for the IEEE 802.1
53         organizationally defined LLDP ETS Configuration TLV on
54         the local system known to this agent"
55     ::= { lldpXdot1dcbxLocETSConfiguration 1 }
56
57     lldpXdot1dcbxLocETSBasicConfigurationEntry OBJECT-TYPE
58     SYNTAX      LldpXdot1dcbxLocETSBasicConfigurationEntry
59     MAX-ACCESS   not-accessible

```

```

1      STATUS      current
2      DESCRIPTION
3          "Information about the IEEE 802.1 organizational defined
4          ETS Configuration TLV LLDP extension."
5      INDEX      { lldpV2LocPortIfIndex }
6      ::= { lldpXdot1dcbxLocETSTBasicConfigurationTable 1 }
7
8      lldpXdot1dcbxLocETSTBasicConfigurationEntry ::= SEQUENCE {
9          lldpXdot1dcbxLocETSTConCreditBasedShaperSupport TruthValue,
10         lldpXdot1dcbxLocETSTConTrafficClassesSupported
11         lldpXdot1dcbxSupportedCapacity,
12         lldpXdot1dcbxLocETSTConWilling TruthValue
13     }
14
15     lldpXdot1dcbxLocETSTConCreditBasedShaperSupport OBJECT-TYPE
16     SYNTAX      TruthValue
17     MAX-ACCESS  read-only
18     STATUS      current
19     DESCRIPTION
20         "Indicates if the credit-based shaper Traffic Selection
21         Algorithm is supported on the local system."
22     REFERENCE
23         "D.2.9.4"
24     ::= { lldpXdot1dcbxLocETSTBasicConfigurationEntry 1 }
25
26     lldpXdot1dcbxLocETSTConTrafficClassesSupported OBJECT-TYPE
27     SYNTAX      LldpXdot1dcbxSupportedCapacity
28     MAX-ACCESS  read-only
29     STATUS      current
30     DESCRIPTION
31         "Indicates the number of traffic classes supported."
32     REFERENCE
33         "D.2.9.5"
34     ::= { lldpXdot1dcbxLocETSTBasicConfigurationEntry 2 }
35
36     lldpXdot1dcbxLocETSTConWilling OBJECT-TYPE
37     SYNTAX      TruthValue
38     MAX-ACCESS  read-only
39     STATUS      current
40     DESCRIPTION
41         "Indicates if the local system is willing to accept the
42         ETS configuration recommended by the remote system."
43     REFERENCE
44         "D.2.9.3"
45     ::= { lldpXdot1dcbxLocETSTBasicConfigurationEntry 3 }
46
47     lldpXdot1dcbxLocETSTConPriorityAssignmentTable OBJECT-TYPE
48     SYNTAX      SEQUENCE OF
49         LldpXdot1dcbxLocETSTConPriorityAssignmentEntry
50     MAX-ACCESS  not-accessible
51     STATUS      current
52     DESCRIPTION
53         "This table contains one row per priority. The entry in each
54         row indicates the traffic class to which the priority is
55         assigned."
56     ::= { lldpXdot1dcbxLocETSTConfiguration 2 }
57
58     lldpXdot1dcbxLocETSTConPriorityAssignmentEntry OBJECT-TYPE
59     SYNTAX      LldpXdot1dcbxLocETSTConPriorityAssignmentEntry

```

```

1      MAX-ACCESS      not-accessible
2      STATUS          current
3      DESCRIPTION
4          "Indicates a priority to traffic class assignment."
5      INDEX            {
6          lldpV2LocPortIfIndex,
7          lldpXdot1dcbxLocETSConPriority
8      }
9      ::= { lldpXdot1dcbxLocETSConPriorityAssignmentTable 1 }
10
11  lldpXdot1dcbxLocETSConPriorityAssignmentEntry ::= SEQUENCE {
12      lldpXdot1dcbxLocETSConPriority      IEEE8021PriorityValue,
13      lldpXdot1dcbxLocETSConPriTrafficClass
14          lldpXdot1dcbxTrafficClassValue
15  }
16
17  lldpXdot1dcbxLocETSConPriority OBJECT-TYPE
18      SYNTAX          IEEE8021PriorityValue
19      MAX-ACCESS      not-accessible
20      STATUS          current
21      DESCRIPTION
22          "Indicates the priority that is assigned to a traffic
23          class."
24      REFERENCE
25          "D.2.9.6"
26      ::= { lldpXdot1dcbxLocETSConPriorityAssignmentEntry 1 }
27
28  lldpXdot1dcbxLocETSConPriTrafficClass OBJECT-TYPE
29      SYNTAX          LldpXdot1dcbxTrafficClassValue
30      MAX-ACCESS      read-only
31      STATUS          current
32      DESCRIPTION
33          "Indicates the traffic class to which this priority is
34          to be assigned."
35      REFERENCE
36          "D.2.9.6"
37      ::= { lldpXdot1dcbxLocETSConPriorityAssignmentEntry 2 }
38
39  lldpXdot1dcbxLocETSConTrafficClassBandwidthTable OBJECT-TYPE
40      SYNTAX          SEQUENCE OF
41          LldpXdot1dcbxLocETSConTrafficClassBandwidthEntry
42      MAX-ACCESS      not-accessible
43      STATUS          current
44      DESCRIPTION
45          "This table contains one row per traffic class. The
46          entry in each row indicates the traffic class to
47          which the bandwidth is assigned."
48      ::= { lldpXdot1dcbxLocETSConfiguration 3 }
49
50  lldpXdot1dcbxLocETSConTrafficClassBandwidthEntry OBJECT-TYPE
51      SYNTAX          LldpXdot1dcbxLocETSConTrafficClassBandwidthEntry
52      MAX-ACCESS      not-accessible
53      STATUS          current
54      DESCRIPTION
55          "Indicates a traffic class to Bandwidth assignment."
56      INDEX            {
57          lldpV2LocPortIfIndex,
58          lldpXdot1dcbxLocETSConTrafficClass
59      }

```

```

1      ::= { lldpXdot1dcbxLocETSTrafficClassBandwidthTable 1 }
2
3      LldpXdot1dcbxLocETSTrafficClassBandwidthEntry ::= SEQUENCE {
4          lldpXdot1dcbxLocETSTrafficClass
5              LldpXdot1dcbxTrafficClassValue,
6          lldpXdot1dcbxLocETSTrafficClassBandwidth
7              LldpXdot1dcbxTrafficClassBandwidthValue
8      }
9
10     lldpXdot1dcbxLocETSTrafficClass OBJECT-TYPE
11     SYNTAX      LldpXdot1dcbxTrafficClassValue
12     MAX-ACCESS  not-accessible
13     STATUS      current
14     DESCRIPTION
15         "Indicates the traffic class to
16         which this bandwidth applies"
17     REFERENCE
18         "D.2.9.7"
19     ::= { lldpXdot1dcbxLocETSTrafficClassBandwidthEntry 1 }
20
21     lldpXdot1dcbxLocETSTrafficClassBandwidth OBJECT-TYPE
22     SYNTAX      LldpXdot1dcbxTrafficClassBandwidthValue
23     MAX-ACCESS  read-only
24     STATUS      current
25     DESCRIPTION
26         "Indicates the bandwidth assigned to this traffic class."
27     REFERENCE
28         "D.2.9.7"
29     ::= { lldpXdot1dcbxLocETSTrafficClassBandwidthEntry 2 }
30
31     lldpXdot1dcbxLocETSTrafficSelectionAlgorithmTable OBJECT-TYPE
32     SYNTAX      SEQUENCE OF
33         LldpXdot1dcbxLocETSTrafficSelectionAlgorithmEntry
34     MAX-ACCESS  not-accessible
35     STATUS      current
36     DESCRIPTION
37         "This table contains one row per traffic class. The entry
38         in each row indicates the traffic selection algorithm to be
39         used by the traffic class."
40     ::= { lldpXdot1dcbxLocETSTrafficSelectionAlgorithmTable 1 }
41
42     lldpXdot1dcbxLocETSTrafficSelectionAlgorithmEntry OBJECT-TYPE
43     SYNTAX      LldpXdot1dcbxLocETSTrafficSelectionAlgorithmEntry
44     MAX-ACCESS  not-accessible
45     STATUS      current
46     DESCRIPTION
47         "Indicates a traffic class to traffic selection algorithm
48         assignment."
49     INDEX      {
50         lldpV2LocPortIfIndex,
51         lldpXdot1dcbxLocETSTrafficClass
52     }
53     ::= { lldpXdot1dcbxLocETSTrafficSelectionAlgorithmTable 1 }
54
55     LldpXdot1dcbxLocETSTrafficSelectionAlgorithmEntry ::= SEQUENCE {
56         lldpXdot1dcbxLocETSTrafficClass
57             LldpXdot1dcbxTrafficClassValue,
58         lldpXdot1dcbxLocETSTrafficSelectionAlgorithm

```

```

1      LldpXdot1dcbxTrafficSelectionAlgorithm
2  }
3
4  lldpXdot1dcbxLocETSConTSATrafficClass OBJECT-TYPE
5      SYNTAX      LldpXdot1dcbxTrafficClassValue
6      MAX-ACCESS   not-accessible
7      STATUS      current
8      DESCRIPTION
9          "Indicates the traffic class that is assigned to a traffic
10         selection algorithm."
11      REFERENCE
12          "D.2.9.8"
13      ::= { lldpXdot1dcbxLocETSConTrafficSelectionAlgorithmEntry 1 }
14
15  lldpXdot1dcbxLocETSConTrafficSelectionAlgorithm OBJECT-TYPE
16      SYNTAX      LldpXdot1dcbxTrafficSelectionAlgorithm
17      MAX-ACCESS   read-only
18      STATUS      current
19      DESCRIPTION
20          "Indicates the Traffic Selection Algorithm to which this
21         traffic class is to be assigned."
22      REFERENCE
23          "D.2.9.8"
24      ::= { lldpXdot1dcbxLocETSConTrafficSelectionAlgorithmEntry 2 }
25
26  --
27  -- lldpXdot1dcbxLocETSRecommendationTable - Contains the information for
28  -- the ETS Recommendation TLV.
29  --
30  lldpXdot1dcbxLocETSReco OBJECT IDENTIFIER ::=
31      { lldpXdot1dcbxLocalData 2 }
32
33  lldpXdot1dcbxLocETSRecoTrafficClassBandwidthTable OBJECT-TYPE
34      SYNTAX      SEQUENCE OF
35          LldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry
36      MAX-ACCESS   not-accessible
37      STATUS      current
38      DESCRIPTION
39          "This table contains one row per traffic class. The
40         entry in each row indicates the traffic class to
41         which the bandwidth is assigned."
42      ::= { lldpXdot1dcbxLocETSReco 1 }
43
44  lldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry OBJECT-TYPE
45      SYNTAX      LldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry
46      MAX-ACCESS   not-accessible
47      STATUS      current
48      DESCRIPTION
49          "Indicates a traffic class to Bandwidth assignment."
50      INDEX
51          {
52              lldpV2LocPortIfIndex,
53              lldpXdot1dcbxLocETSRecoTrafficClass
54          }
55      ::= { lldpXdot1dcbxLocETSRecoTrafficClassBandwidthTable 1 }
56
57  lldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry ::= SEQUENCE {
58      lldpXdot1dcbxLocETSRecoTrafficClass
59      LldpXdot1dcbxTrafficClassValue,
60      lldpXdot1dcbxLocETSRecoTrafficClassBandwidth

```

```

1         LldpXdot1dcbxTrafficClassBandwidthValue
2     }
3
4     lldpXdot1dcbxLocETSRecoTrafficClass OBJECT-TYPE
5         SYNTAX          LldpXdot1dcbxTrafficClassValue
6         MAX-ACCESS      not-accessible
7         STATUS          current
8         DESCRIPTION
9             "Indicates the traffic class to
10            which this bandwidth applies"
11         REFERENCE
12            "D.2.10.3"
13         ::= { lldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry 1 }
14
15     lldpXdot1dcbxLocETSRecoTrafficClassBandwidth OBJECT-TYPE
16         SYNTAX          LldpXdot1dcbxTrafficClassBandwidthValue
17         MAX-ACCESS      read-only
18         STATUS          current
19         DESCRIPTION
20            "Indicates the bandwidth assigned to this traffic class."
21         REFERENCE
22            "D.2.10.4"
23         ::= { lldpXdot1dcbxLocETSRecoTrafficClassBandwidthEntry 2 }
24
25     lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmTable OBJECT-TYPE
26         SYNTAX          SEQUENCE OF
27            LldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry
28         MAX-ACCESS      not-accessible
29         STATUS          current
30         DESCRIPTION
31            "This table contains one row per priority. The entry in each
32            row indicates the traffic selection algorithm to be used
33            by the traffic class."
34         ::= { lldpXdot1dcbxLocETSReco 2 }
35
36     lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry OBJECT-TYPE
37         SYNTAX          LldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry
38         MAX-ACCESS      not-accessible
39         STATUS          current
40         DESCRIPTION
41            "Indicates a priority to traffic selection algorithm
42            assignment."
43         INDEX
44            {
45                lldpV2LocPortIfIndex,
46                lldpXdot1dcbxLocETSRecoTSATrafficClass
47            }
48         ::= { lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmTable 1 }
49
50     LldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry ::= SEQUENCE {
51         lldpXdot1dcbxLocETSRecoTSATrafficClass
52         LldpXdot1dcbxTrafficClassValue,
53         lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithm
54         LldpXdot1dcbxTrafficSelectionAlgorithm
55     }
56
57     lldpXdot1dcbxLocETSRecoTSATrafficClass OBJECT-TYPE
58         SYNTAX          LldpXdot1dcbxTrafficClassValue
59         MAX-ACCESS      not-accessible
60         STATUS          current

```

```

1      DESCRIPTION
2          "Indicates the traffic class that is assigned to a traffic
3          selection algorithm."
4      REFERENCE
5          "D.2.10.5"
6      ::= { lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry 1 }
7
8      lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithm OBJECT-TYPE
9          SYNTAX      LldpXdot1dcbxTrafficSelectionAlgorithm
10         MAX-ACCESS   read-only
11         STATUS       current
12         DESCRIPTION
13             "Indicates the Traffic Selection Algorithm to which this
14             traffic class is to be assigned."
15         REFERENCE
16             "D.2.10.5"
17         ::= { lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithmEntry 2 }
18
19         --
20         -- lldpXdot1dcbxLocPFCBTable - Contains the information for the PFC
21         -- Configuration TLV.
22         --
23         lldpXdot1dcbxLocPFC OBJECT IDENTIFIER ::= { lldpXdot1dcbxLocalData 3 }
24
25         lldpXdot1dcbxLocPFCBasicTable OBJECT-TYPE
26             SYNTAX      SEQUENCE OF LldpXdot1dcbxLocPFCBasicEntry
27             MAX-ACCESS   not-accessible
28             STATUS       current
29             DESCRIPTION
30                 "This table contains one row per port for the IEEE 802.1
31                 organizationally defined LLDP PFC TLV on the local
32                 system known to this agent"
33             ::= { lldpXdot1dcbxLocPFC 1 }
34
35         lldpXdot1dcbxLocPFCBasicEntry OBJECT-TYPE
36             SYNTAX      LldpXdot1dcbxLocPFCBasicEntry
37             MAX-ACCESS   not-accessible
38             STATUS       current
39             DESCRIPTION
40                 "Information about the IEEE 802.1 organizational defined
41                 PFC TLV LLDP extension."
42             INDEX        { lldpV2LocPortIfIndex }
43             ::= { lldpXdot1dcbxLocPFCBasicTable 1 }
44
45         LldpXdot1dcbxLocPFCBasicEntry ::= SEQUENCE {
46             lldpXdot1dcbxLocPFCWilling      TruthValue,
47             lldpXdot1dcbxLocPFCMBC          TruthValue,
48             lldpXdot1dcbxLocPFCCap          LldpXdot1dcbxSupportedCapacity
49         }
50
51         lldpXdot1dcbxLocPFCWilling OBJECT-TYPE
52             SYNTAX      TruthValue
53             MAX-ACCESS   read-only
54             STATUS       current
55             DESCRIPTION
56                 "Indicates if the local system is willing to accept the
57                 PFC configuration of the remote system."
58             REFERENCE
59                 "D.2.11.3"

```



```

1      ::= { lldpXdot1dcbxLocPFCBasicEntry 1}
2
3      lldpXdot1dcbxLocPFCMBC OBJECT-TYPE
4          SYNTAX      TruthValue
5          MAX-ACCESS   read-only
6          STATUS      current
7          DESCRIPTION
8              "Indicates if the local system is capable of bypassing
9              MACsec processing when MACsec is disabled."
10         REFERENCE
11             "D.2.11.4"
12         ::= { lldpXdot1dcbxLocPFCBasicEntry 2}
13
14         lldpXdot1dcbxLocPFCCap OBJECT-TYPE
15             SYNTAX      LldpXdot1dcbxSupportedCapacity
16             MAX-ACCESS   read-only
17             STATUS      current
18             DESCRIPTION
19                 "Indicates the number of traffic classes on the local device
20                 that may simultaneously have PFC enabled."
21             REFERENCE
22                 "D.2.11.5"
23             ::= { lldpXdot1dcbxLocPFCBasicEntry 3}
24
25         lldpXdot1dcbxLocPFCEnableTable OBJECT-TYPE
26             SYNTAX      SEQUENCE OF LldpXdot1dcbxLocPFCEnableEntry
27             MAX-ACCESS   not-accessible
28             STATUS      current
29             DESCRIPTION
30                 "This table contains eight entries, one entry per priority,
31                 indicating if PFC is enabled on the corresponding priority."
32             ::= { lldpXdot1dcbxLocPFC 2 }
33
34         lldpXdot1dcbxLocPFCEnableEntry OBJECT-TYPE
35             SYNTAX      LldpXdot1dcbxLocPFCEnableEntry
36             MAX-ACCESS   not-accessible
37             STATUS      current
38             DESCRIPTION
39                 "Each entry indicates if PFC is enabled on the
40                 corresponding priority"
41             INDEX {
42                 lldpV2LocPortIfIndex,
43                 lldpXdot1dcbxLocPFCEnablePriority
44             }
45             ::= { lldpXdot1dcbxLocPFCEnableTable 1 }
46
47         LldpXdot1dcbxLocPFCEnableEntry ::= SEQUENCE {
48             lldpXdot1dcbxLocPFCEnablePriority  IEEE8021PriorityValue,
49             lldpXdot1dcbxLocPFCEnableEnabled    TruthValue
50         }
51
52         lldpXdot1dcbxLocPFCEnablePriority OBJECT-TYPE
53             SYNTAX      IEEE8021PriorityValue
54             MAX-ACCESS   not-accessible
55             STATUS      current
56             DESCRIPTION
57                 "Priorty for which PFC is enabled / disabled"
58             ::= { lldpXdot1dcbxLocPFCEnableEntry 1 }

```

```

1  lldpXdot1dcbxLocPFCEnableEnabled OBJECT-TYPE
2      SYNTAX          TruthValue
3      MAX-ACCESS      read-only
4      STATUS          current
5      DESCRIPTION
6          "Indicates if PFC is enabled on the corresponding priority"
7      REFERENCE
8          "D.2.11.6"
9      ::= { lldpXdot1dcbxLocPFCEnableEntry 2 }
10
11  --
12  -- lldpXdot1dcbxLocApplicationPriorityTable - Contains the information
13  -- for the Application Priority TLV.
14  --
15  lldpXdot1dcbxLocApplicationPriorityAppTable OBJECT-TYPE
16      SYNTAX          SEQUENCE OF
17          LldpXdot1dcbxLocApplicationPriorityAppEntry
18      MAX-ACCESS      not-accessible
19      STATUS          current
20      DESCRIPTION
21          "Table containing entries indicating the priority to be used
22          for a given application"
23      ::= { lldpXdot1dcbxLocalData 4 }
24
25  lldpXdot1dcbxLocApplicationPriorityAppEntry OBJECT-TYPE
26      SYNTAX          LldpXdot1dcbxLocApplicationPriorityAppEntry
27      MAX-ACCESS      not-accessible
28      STATUS          current
29      DESCRIPTION
30          "Entry that indicates the priority to be used for a
31          given application."
32      INDEX
33          {
34              lldpV2LocPortIfIndex,
35              lldpXdot1dcbxLocApplicationPriorityAESelector,
36              lldpXdot1dcbxLocApplicationPriorityAEProtocol
37          }
38      ::= { lldpXdot1dcbxLocApplicationPriorityAppTable 1 }
39
40  LldpXdot1dcbxLocApplicationPriorityAppEntry ::= SEQUENCE {
41      lldpXdot1dcbxLocApplicationPriorityAESelector
42      LldpXdot1dcbxAppSelector,
43      lldpXdot1dcbxLocApplicationPriorityAEProtocol
44      LldpXdot1dcbxAppProtocol,
45      lldpXdot1dcbxLocApplicationPriorityAEPriority
46      IEEE8021PriorityValue
47  }
48
49  lldpXdot1dcbxLocApplicationPriorityAESelector OBJECT-TYPE
50      SYNTAX          LldpXdot1dcbxAppSelector
51      MAX-ACCESS      not-accessible
52      STATUS          current
53      DESCRIPTION
54          "Indicates the contents of the protocol object
55          (lldpXdot1dcbxLocApplicationPriorityAEProtocol)
56          1: Ethertype
57          2: Well Known Port number over TCP, or SCTP
58          3: Well Known Port number over UDP, or DCCP
59          4: Well Known Port number over TCP, SCTP, UDP, and DCCP"
60      REFERENCE

```

```

1      "D.2.12.3"
2      ::= { lldpXdot1dcbxLocApplicationPriorityAppEntry 1 }
3
4      lldpXdot1dcbxLocApplicationPriorityAEProtocol OBJECT-TYPE
5          SYNTAX      LldpXdot1dcbxAppProtocol
6          MAX-ACCESS   not-accessible
7          STATUS       current
8          DESCRIPTION
9              "The protocol indicator of the type indicated by
10             lldpXdot1dcbxLocApplicationPriorityAESelector."
11          REFERENCE
12              "D.2.12.3"
13      ::= { lldpXdot1dcbxLocApplicationPriorityAppEntry 2 }
14
15      lldpXdot1dcbxLocApplicationPriorityAEPriority OBJECT-TYPE
16          SYNTAX      IEEE8021PriorityValue
17          MAX-ACCESS   read-only
18          STATUS       current
19          DESCRIPTION
20              "The priority code point that should be used in
21              frames transporting the protocol indicated by
22              lldpXdot1dcbxLocApplicationPriorityAESelector and
23              lldpXdot1dcbxLocApplicationPriorityAEProtocol"
24          REFERENCE
25              "D.2.12.3"
26      ::= { lldpXdot1dcbxLocApplicationPriorityAppEntry 3 }
27
28      -----
29      -- IEEE 802.1 - DCBX Remote System Information
30      -----
31      --
32      -- lldpXdot1dcbxRemETSConfigurationTable - Contains the information
33      -- for the remote system ETS Configuration TLV.
34      --
35      lldpXdot1dcbxRemETSConfiguration OBJECT IDENTIFIER
36          ::= { lldpXdot1dcbxRemoteData 1 }
37
38      lldpXdot1dcbxRemETSBasicConfigurationTable OBJECT-TYPE
39          SYNTAX      SEQUENCE OF LldpXdot1dcbxRemETSBasicConfigurationEntry
40          MAX-ACCESS   not-accessible
41          STATUS       current
42          DESCRIPTION
43              "This table contains one row per port for the IEEE 802.1
44              organizationally defined LLDP ETS Configuration TLV on
45              the local system known to this agent"
46          ::= { lldpXdot1dcbxRemETSConfiguration 1 }
47
48      lldpXdot1dcbxRemETSBasicConfigurationEntry OBJECT-TYPE
49          SYNTAX      LldpXdot1dcbxRemETSBasicConfigurationEntry
50          MAX-ACCESS   not-accessible
51          STATUS       current
52          DESCRIPTION
53              "Information about the IEEE 802.1 organizational defined
54              ETS Configuration TLV LLDP extension."
55          INDEX
56              {
57                  lldpV2RemTimeMark,
58                  lldpV2RemLocalIfIndex,

```

```

1         lldpV2RemLocalDestMACAddress,
2         lldpV2RemIndex
3     }
4     ::= { lldpXdot1dcbxRemETSTBasicConfigurationTable 1 }
5
6     LldpXdot1dcbxRemETSTBasicConfigurationEntry ::= SEQUENCE {
7         lldpXdot1dcbxRemETSTConCreditBasedShaperSupport      TruthValue,
8         lldpXdot1dcbxRemETSTConTrafficClassesSupported
9             LldpXdot1dcbxSupportedCapacity,
10        lldpXdot1dcbxRemETSTConWilling      TruthValue
11    }
12
13    lldpXdot1dcbxRemETSTConCreditBasedShaperSupport OBJECT-TYPE
14        SYNTAX      TruthValue
15        MAX-ACCESS   read-only
16        STATUS      current
17        DESCRIPTION
18            "Indicates if the credit-based shaper Traffic Selection
19            algorithm is supported on the remote system."
20        REFERENCE
21            "D.2.9.4"
22        ::= { lldpXdot1dcbxRemETSTBasicConfigurationEntry 1 }
23
24    lldpXdot1dcbxRemETSTConTrafficClassesSupported OBJECT-TYPE
25        SYNTAX      LldpXdot1dcbxSupportedCapacity
26        MAX-ACCESS   read-only
27        STATUS      current
28        DESCRIPTION
29            "Indicates the number of traffic classes supported."
30        REFERENCE
31            "D.2.9.5"
32        ::= { lldpXdot1dcbxRemETSTBasicConfigurationEntry 2 }
33
34    lldpXdot1dcbxRemETSTConWilling OBJECT-TYPE
35        SYNTAX      TruthValue
36        MAX-ACCESS   read-only
37        STATUS      current
38        DESCRIPTION
39            "Indicates if the remote system is willing to accept the
40            ETS configuration recommended by the remote system."
41        REFERENCE
42            "D.2.9.3"
43        ::= { lldpXdot1dcbxRemETSTBasicConfigurationEntry 3 }
44
45    lldpXdot1dcbxRemETSTConPriorityAssignmentTable OBJECT-TYPE
46        SYNTAX      SEQUENCE OF
47            LldpXdot1dcbxRemETSTConPriorityAssignmentEntry
48        MAX-ACCESS   not-accessible
49        STATUS      current
50        DESCRIPTION
51            "This table contains one row per priority. The entry in
52            each row indicates the traffic class to which the
53            priority is assigned."
54        ::= { lldpXdot1dcbxRemETSTConfiguration 2 }
55
56    lldpXdot1dcbxRemETSTConPriorityAssignmentEntry OBJECT-TYPE
57        SYNTAX      LldpXdot1dcbxRemETSTConPriorityAssignmentEntry
58        MAX-ACCESS   not-accessible
59        STATUS      current

```

```

1      DESCRIPTION
2          "Indicates a priority to traffic class assignment."
3      INDEX          {
4          lldpV2RemTimeMark,
5          lldpV2RemLocalIfIndex,
6          lldpV2RemLocalDestMACAddress,
7          lldpV2RemIndex,
8          lldpXdot1dcbxRemETSTConPriority
9      }
10     ::= { lldpXdot1dcbxRemETSTConPriorityAssignmentTable 1 }
11
12     LldpXdot1dcbxRemETSTConPriorityAssignmentEntry ::= SEQUENCE {
13         lldpXdot1dcbxRemETSTConPriority          IEEE8021PriorityValue,
14         lldpXdot1dcbxRemETSTConPriTrafficClass
15         LldpXdot1dcbxTrafficClassValue
16     }
17
18     lldpXdot1dcbxRemETSTConPriority OBJECT-TYPE
19     SYNTAX          IEEE8021PriorityValue
20     MAX-ACCESS      not-accessible
21     STATUS          current
22     DESCRIPTION
23         "Indicates the priority that is assigned to a traffic
24         class."
25     REFERENCE
26         "D.2.9.6"
27     ::= { lldpXdot1dcbxRemETSTConPriorityAssignmentEntry 1 }
28
29     lldpXdot1dcbxRemETSTConPriTrafficClass OBJECT-TYPE
30     SYNTAX          LldpXdot1dcbxTrafficClassValue
31     MAX-ACCESS      read-only
32     STATUS          current
33     DESCRIPTION
34         "Indicates the traffic class to which this priority is
35         to be assigned."
36     REFERENCE
37         "D.2.9.6"
38     ::= { lldpXdot1dcbxRemETSTConPriorityAssignmentEntry 2 }
39
40     lldpXdot1dcbxRemETSTConTrafficClassBandwidthTable OBJECT-TYPE
41     SYNTAX          SEQUENCE OF
42         LldpXdot1dcbxRemETSTConTrafficClassBandwidthEntry
43     MAX-ACCESS      not-accessible
44     STATUS          current
45     DESCRIPTION
46         "This table contains one row per traffic class. The
47         entry in each row indicates the traffic class to
48         which the bandwidth is assigned."
49     ::= { lldpXdot1dcbxRemETSTConfiguration 3 }
50
51     lldpXdot1dcbxRemETSTConTrafficClassBandwidthEntry OBJECT-TYPE
52     SYNTAX          LldpXdot1dcbxRemETSTConTrafficClassBandwidthEntry
53     MAX-ACCESS      not-accessible
54     STATUS          current
55     DESCRIPTION
56         "Indicates a traffic class to Bandwidth assignment."
57     INDEX          {
58         lldpV2RemTimeMark,
59         lldpV2RemLocalIfIndex,

```

```

1         lldpV2RemLocalDestMACAddress,
2         lldpV2RemIndex,
3         lldpXdot1dcbxRemETSTrafficClass
4     }
5     ::= { lldpXdot1dcbxRemETSTrafficClassBandwidthTable 1 }
6
7     lldpXdot1dcbxRemETSTrafficClassBandwidthEntry ::= SEQUENCE {
8         lldpXdot1dcbxRemETSTrafficClass
9         lldpXdot1dcbxTrafficClassValue,
10        lldpXdot1dcbxRemETSTrafficClassBandwidth
11        lldpXdot1dcbxTrafficClassBandwidthValue
12    }
13
14    lldpXdot1dcbxRemETSTrafficClass OBJECT-TYPE
15        SYNTAX      LldpXdot1dcbxTrafficClassValue
16        MAX-ACCESS   not-accessible
17        STATUS       current
18        DESCRIPTION
19            "Indicates the traffic class to
20            which this bandwidth applies"
21        REFERENCE
22            "D.2.9.7"
23        ::= { lldpXdot1dcbxRemETSTrafficClassBandwidthEntry 1 }
24
25    lldpXdot1dcbxRemETSTrafficClassBandwidth OBJECT-TYPE
26        SYNTAX      LldpXdot1dcbxTrafficClassBandwidthValue
27        MAX-ACCESS   read-only
28        STATUS       current
29        DESCRIPTION
30            "Indicates the bandwidth assigned to this traffic class."
31        REFERENCE
32            "D.2.9.7"
33        ::= { lldpXdot1dcbxRemETSTrafficClassBandwidthEntry 2 }
34
35    lldpXdot1dcbxRemETSTrafficSelectionAlgorithmTable OBJECT-TYPE
36        SYNTAX      SEQUENCE OF
37            LldpXdot1dcbxRemETSTrafficSelectionAlgorithmEntry
38        MAX-ACCESS   not-accessible
39        STATUS       current
40        DESCRIPTION
41            "This table contains one row per traffic class. The
42            entry in each row indicates the traffic selection
43            algorithm to be used by the traffic class."
44        ::= { lldpXdot1dcbxRemETSTrafficSelectionAlgorithmTable 4 }
45
46    lldpXdot1dcbxRemETSTrafficSelectionAlgorithmEntry OBJECT-TYPE
47        SYNTAX      LldpXdot1dcbxRemETSTrafficSelectionAlgorithmEntry
48        MAX-ACCESS   not-accessible
49        STATUS       current
50        DESCRIPTION
51            "Indicates a traffic class to traffic selection
52            algorithm assignment."
53        INDEX
54            {
55                lldpV2RemTimeMark,
56                lldpV2RemLocalIfIndex,
57                lldpV2RemLocalDestMACAddress,
58                lldpV2RemIndex,
59                lldpXdot1dcbxRemETSTrafficClass

```

```

1      }
2      ::= { lldpXdot1dcbxRemETSTrafficSelectionAlgorithmTable 1 }
3
4      LldpXdot1dcbxRemETSTrafficSelectionAlgorithmEntry ::= SEQUENCE {
5          lldpXdot1dcbxRemETSTrafficClass
6              LldpXdot1dcbxTrafficClassValue,
7          lldpXdot1dcbxRemETSTrafficSelectionAlgorithm
8              LldpXdot1dcbxTrafficSelectionAlgorithm
9      }
10
11      lldpXdot1dcbxRemETSTrafficClass OBJECT-TYPE
12      SYNTAX      LldpXdot1dcbxTrafficClassValue
13      MAX-ACCESS  not-accessible
14      STATUS      current
15      DESCRIPTION
16          "Indicates the traffic class that is assigned to a traffic
17          selection algorithm."
18      REFERENCE
19          "D.2.9.8"
20      ::= { lldpXdot1dcbxRemETSTrafficSelectionAlgorithmEntry 1 }
21
22      lldpXdot1dcbxRemETSTrafficSelectionAlgorithm OBJECT-TYPE
23      SYNTAX      LldpXdot1dcbxTrafficSelectionAlgorithm
24      MAX-ACCESS  read-only
25      STATUS      current
26      DESCRIPTION
27          "Indicates the Traffic Selection Algorithm to which this
28          traffic class is to be assigned."
29      REFERENCE
30          "D.2.9.8"
31      ::= { lldpXdot1dcbxRemETSTrafficSelectionAlgorithmEntry 2 }
32
33      --
34      -- lldpXdot1dcbxRemETSRecommendationTable - Contains the information for
35      -- the remote system ETS Recommendation TLV.
36      --
37      lldpXdot1dcbxRemETSReco OBJECT IDENTIFIER ::=
38      { lldpXdot1dcbxRemoteData 2 }
39
40      lldpXdot1dcbxRemETSRecoTrafficClassBandwidthTable OBJECT-TYPE
41      SYNTAX      SEQUENCE OF
42          LldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry
43      MAX-ACCESS  not-accessible
44      STATUS      current
45      DESCRIPTION
46          "This table contains one row per traffic class. The
47          entry in each row indicates the traffic class to
48          which the bandwidth is assigned."
49      ::= { lldpXdot1dcbxRemETSReco 1 }
50
51      lldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry OBJECT-TYPE
52      SYNTAX      LldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry
53      MAX-ACCESS  not-accessible
54      STATUS      current
55      DESCRIPTION
56          "Indicates a traffic class to Bandwidth assignment."
57      INDEX      {
58          lldpV2RemTimeMark,
59          lldpV2RemLocalIfIndex,

```

```

1         lldpV2RemLocalDestMACAddress,
2         lldpV2RemIndex,
3         lldpXdot1dcbxRemETSRecoTrafficClass
4     }
5     ::= { lldpXdot1dcbxRemETSRecoTrafficClassBandwidthTable 1 }
6
7     lldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry ::= SEQUENCE {
8         lldpXdot1dcbxRemETSRecoTrafficClass
9         LldpXdot1dcbxTrafficClassValue,
10        lldpXdot1dcbxRemETSRecoTrafficClassBandwidth
11        LldpXdot1dcbxTrafficClassBandwidthValue
12    }
13
14    lldpXdot1dcbxRemETSRecoTrafficClass OBJECT-TYPE
15        SYNTAX      LldpXdot1dcbxTrafficClassValue
16        MAX-ACCESS   not-accessible
17        STATUS       current
18        DESCRIPTION
19            "Indicates the traffic class to
20            which this bandwidth applies"
21        REFERENCE
22            "D.2.10.4"
23        ::= { lldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry 1 }
24
25    lldpXdot1dcbxRemETSRecoTrafficClassBandwidth OBJECT-TYPE
26        SYNTAX      LldpXdot1dcbxTrafficClassBandwidthValue
27        MAX-ACCESS   read-only
28        STATUS       current
29        DESCRIPTION
30            "Indicates the bandwidth assigned to this traffic class."
31        REFERENCE
32            "D.2.10.4"
33        ::= { lldpXdot1dcbxRemETSRecoTrafficClassBandwidthEntry 2 }
34
35    lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmTable OBJECT-TYPE
36        SYNTAX      SEQUENCE OF
37            LldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry
38        MAX-ACCESS   not-accessible
39        STATUS       current
40        DESCRIPTION
41            "This table contains one row per traffic class. The
42            entry in each row indicates the traffic selection
43            algorithm to be used by the priority."
44        ::= { lldpXdot1dcbxRemETSReco 2 }
45
46    lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry OBJECT-TYPE
47        SYNTAX      LldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry
48        MAX-ACCESS   not-accessible
49        STATUS       current
50        DESCRIPTION
51            "Indicates a priority to traffic selection algorithm
52            assignment."
53        INDEX
54            {
55                lldpV2RemTimeMark,
56                lldpV2RemLocalIfIndex,
57                lldpV2RemLocalDestMACAddress,
58                lldpV2RemIndex,
59                lldpXdot1dcbxRemETSRecoTSATrafficClass
60            }

```



```

1      ::= { lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmTable 1 }
2
3      LldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry ::= SEQUENCE {
4          lldpXdot1dcbxRemETSRecoTSATrafficClass
5              LldpXdot1dcbxTrafficClassValue,
6          lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithm
7              LldpXdot1dcbxTrafficSelectionAlgorithm
8      }
9
10     lldpXdot1dcbxRemETSRecoTSATrafficClass OBJECT-TYPE
11     SYNTAX      LldpXdot1dcbxTrafficClassValue
12     MAX-ACCESS  not-accessible
13     STATUS      current
14     DESCRIPTION
15         "Indicates the traffic class that is assigned to a traffic
16         selection algorithm."
17     REFERENCE
18         "D.2.10.5"
19     ::= { lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry 1 }
20
21     lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithm OBJECT-TYPE
22     SYNTAX      LldpXdot1dcbxTrafficSelectionAlgorithm
23     MAX-ACCESS  read-only
24     STATUS      current
25     DESCRIPTION
26         "Indicates the Traffic Selection Algorithm to which this
27         traffic class is to be assigned."
28     REFERENCE
29         "D.2.10.5"
30     ::= { lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithmEntry 2 }
31
32     --
33     -- lldpXdot1dcbxRemPFCTable - Contains the information for the remote
34     -- system PFC TLV.
35     --
36     lldpXdot1dcbxRemPFC OBJECT IDENTIFIER ::= { lldpXdot1dcbxRemoteData 3 }
37
38     lldpXdot1dcbxRemPFCBasicTable OBJECT-TYPE
39     SYNTAX      SEQUENCE OF LldpXdot1dcbxRemPFCBasicEntry
40     MAX-ACCESS  not-accessible
41     STATUS      current
42     DESCRIPTION
43         "This table contains one row per port for the IEEE 802.1
44         organizationally defined LLDP PFC TLV on the local
45         system known to this agent"
46     ::= { lldpXdot1dcbxRemPFC 1 }
47
48     lldpXdot1dcbxRemPFCBasicEntry OBJECT-TYPE
49     SYNTAX      LldpXdot1dcbxRemPFCBasicEntry
50     MAX-ACCESS  not-accessible
51     STATUS      current
52     DESCRIPTION
53         "Information about the IEEE 802.1 organizational defined
54         PFC TLV LLDP extension."
55     INDEX
56         {
57             lldpV2RemTimeMark,
58             lldpV2RemLocalIfIndex,
59             lldpV2RemLocalDestMACAddress,
60             lldpV2RemIndex

```

```

1      }
2      ::= { lldpXdot1dcbxRemPFCBasicTable 1 }
3
4      LldpXdot1dcbxRemPFCBasicEntry ::= SEQUENCE {
5          lldpXdot1dcbxRemPFCWilling      TruthValue,
6          lldpXdot1dcbxRemPFCMBC         TruthValue,
7          lldpXdot1dcbxRemPFCap          LldpXdot1dcbxSupportedCapacity
8      }
9
10     lldpXdot1dcbxRemPFCWilling OBJECT-TYPE
11         SYNTAX      TruthValue
12         MAX-ACCESS   read-only
13         STATUS      current
14         DESCRIPTION
15             "Indicates if the remote system is willing to accept the
16             PFC configuration of the local system."
17         REFERENCE
18             "D.2.11.3"
19     ::= { lldpXdot1dcbxRemPFCBasicEntry 1}
20
21     lldpXdot1dcbxRemPFCMBC OBJECT-TYPE
22         SYNTAX      TruthValue
23         MAX-ACCESS   read-only
24         STATUS      current
25         DESCRIPTION
26             "Indicates if the remote system is capable of bypassing
27             MACsec processing when MACsec is disabled."
28         REFERENCE
29             "D.2.11.4"
30     ::= { lldpXdot1dcbxRemPFCBasicEntry 2}
31
32     lldpXdot1dcbxRemPFCap OBJECT-TYPE
33         SYNTAX      LldpXdot1dcbxSupportedCapacity
34         MAX-ACCESS   read-only
35         STATUS      current
36         DESCRIPTION
37             "Indicates the number of traffic classes on the remote device
38             that may simultaneously have PFC enabled."
39         REFERENCE
40             "D.2.11.5"
41     ::= { lldpXdot1dcbxRemPFCBasicEntry 3}
42
43     lldpXdot1dcbxRemPFCEnableTable OBJECT-TYPE
44         SYNTAX      SEQUENCE OF LldpXdot1dcbxRemPFCEnableEntry
45         MAX-ACCESS   not-accessible
46         STATUS      current
47         DESCRIPTION
48             "This table contains eight entries, one entry per priority,
49             indicating if PFC is enabled on the corresponding priority."
50     ::= { lldpXdot1dcbxRemPFC 2 }
51
52     lldpXdot1dcbxRemPFCEnableEntry OBJECT-TYPE
53         SYNTAX      LldpXdot1dcbxRemPFCEnableEntry
54         MAX-ACCESS   not-accessible
55         STATUS      current
56         DESCRIPTION
57             "Each entry indicates if PFC is enabled on the
58             correponding priority"
59         INDEX      {

```

```

1         lldpV2RemTimeMark,
2         lldpV2RemLocalIfIndex,
3         lldpV2RemLocalDestMACAddress,
4         lldpV2RemIndex,
5         lldpXdot1dcbxRemPFCEnablePriority
6     }
7     ::= { lldpXdot1dcbxRemPFCEnableTable 1 }
8
9 LldpXdot1dcbxRemPFCEnableEntry ::= SEQUENCE {
10     lldpXdot1dcbxRemPFCEnablePriority IEEE8021PriorityValue,
11     lldpXdot1dcbxRemPFCEnableEnabled TruthValue
12 }
13
14 lldpXdot1dcbxRemPFCEnablePriority OBJECT-TYPE
15     SYNTAX IEEE8021PriorityValue
16     MAX-ACCESS not-accessible
17     STATUS current
18     DESCRIPTION
19         "Priority for which PFC is enabled / disabled"
20     ::= { lldpXdot1dcbxRemPFCEnableEntry 1 }
21
22 lldpXdot1dcbxRemPFCEnableEnabled OBJECT-TYPE
23     SYNTAX TruthValue
24     MAX-ACCESS read-only
25     STATUS current
26     DESCRIPTION
27         "Indicates if PFC is enabled on the corresponding priority"
28     REFERENCE
29         "D.2.11.6"
30     ::= { lldpXdot1dcbxRemPFCEnableEntry 2 }
31
32 --
33 -- lldpXdot1dcbxRemApplicationPriorityTable - Contains the information
34 -- for the remote system Application Priority TLV.
35 --
36
37 lldpXdot1dcbxRemApplicationPriorityAppTable OBJECT-TYPE
38     SYNTAX SEQUENCE OF
39         LldpXdot1dcbxRemApplicationPriorityAppEntry
40     MAX-ACCESS not-accessible
41     STATUS current
42     DESCRIPTION
43         "Table containing entries indicating the priority to be used
44         for a given application"
45     ::= { lldpXdot1dcbxRemoteData 4 }
46
47 lldpXdot1dcbxRemApplicationPriorityAppEntry OBJECT-TYPE
48     SYNTAX LldpXdot1dcbxRemApplicationPriorityAppEntry
49     MAX-ACCESS not-accessible
50     STATUS current
51     DESCRIPTION
52         "Entry that indicates the priority to be used for a
53         given application."
54     INDEX
55         {
56             lldpV2RemTimeMark,
57             lldpV2RemLocalIfIndex,
58             lldpV2RemLocalDestMACAddress,
59             lldpV2RemIndex,
60             lldpXdot1dcbxRemApplicationPriorityAESelector,

```

```

1         lldpXdot1dcbxRemApplicationPriorityAEProtocol
2     }
3     ::= { lldpXdot1dcbxRemApplicationPriorityAppTable 1 }
4
5     LldpXdot1dcbxRemApplicationPriorityAppEntry ::= SEQUENCE {
6         lldpXdot1dcbxRemApplicationPriorityAESelector
7         LldpXdot1dcbxAppSelector,
8         lldpXdot1dcbxRemApplicationPriorityAEProtocol
9         LldpXdot1dcbxAppProtocol,
10        lldpXdot1dcbxRemApplicationPriorityAEPriority
11        IEEE8021PriorityValue
12    }
13
14    lldpXdot1dcbxRemApplicationPriorityAESelector OBJECT-TYPE
15        SYNTAX      LldpXdot1dcbxAppSelector
16        MAX-ACCESS   not-accessible
17        STATUS       current
18        DESCRIPTION
19            "Indicates the contents of the protocol object
20             (lldpXdot1dcbxRemApplicationPriorityAEProtocol)
21             1: Ethertype
22             2: Well Known Port number over TCP, or SCTP
23             3: Well Known Port number over UDP, or DCCP
24             4: Well Known Port number over TCP, SCTP, UDP, and DCCP"
25        REFERENCE
26            "D.2.12.3"
27        ::= { lldpXdot1dcbxRemApplicationPriorityAppEntry 1 }
28
29    lldpXdot1dcbxRemApplicationPriorityAEProtocol OBJECT-TYPE
30        SYNTAX      LldpXdot1dcbxAppProtocol
31        MAX-ACCESS   not-accessible
32        STATUS       current
33        DESCRIPTION
34            "The protocol indicator of the type indicated by
35             lldpXdot1dcbxRemApplicationPriorityAESelector."
36        REFERENCE
37            "D.2.12.3"
38        ::= { lldpXdot1dcbxRemApplicationPriorityAppEntry 2 }
39
40    lldpXdot1dcbxRemApplicationPriorityAEPriority OBJECT-TYPE
41        SYNTAX      IEEE8021PriorityValue
42        MAX-ACCESS   read-only
43        STATUS       current
44        DESCRIPTION
45            "The priority code point that should be used in
46             frames transporting the protocol indicated by
47             lldpXdot1dcbxRemApplicationPriorityAESelector and
48             lldpXdot1dcbxRemApplicationPriorityAEProtocol"
49        REFERENCE
50            "D.2.12.3"
51        ::= { lldpXdot1dcbxRemApplicationPriorityAppEntry 3 }
52
53    -----
54    -- IEEE 802.1 - DCBX Administrative Information
55    -----
56
57    --
58    -- lldpXdot1dcbxAdminETSTable - Contains the information
59    -- for the ETS Configuration TLV.

```

```

1  --
2  lldpXdot1dcbxAdminETSTConfiguration OBJECT IDENTIFIER
3      ::= { lldpXdot1dcbxAdminData 1 }
4
5  lldpXdot1dcbxAdminETSTBasicConfigurationTable OBJECT-TYPE
6      SYNTAX      SEQUENCE OF
7          LldpXdot1dcbxAdminETSTBasicConfigurationEntry
8      MAX-ACCESS  not-accessible
9      STATUS      current
10     DESCRIPTION
11         "This table contains one row per port for the IEEE 802.1
12         organizationally defined LLDP ETS Configuration TLV
13         on the local system known to this agent"
14     ::= { lldpXdot1dcbxAdminETSTConfiguration 1 }
15
16 lldpXdot1dcbxAdminETSTBasicConfigurationEntry OBJECT-TYPE
17     SYNTAX      LldpXdot1dcbxAdminETSTBasicConfigurationEntry
18     MAX-ACCESS  not-accessible
19     STATUS      current
20     DESCRIPTION
21         "Information about the IEEE 802.1 organizational defined
22         ETS Configuration TLV LLDP extension."
23     INDEX       { lldpV2LocPortIfIndex }
24     ::= { lldpXdot1dcbxAdminETSTBasicConfigurationTable 1 }
25
26 LldpXdot1dcbxAdminETSTBasicConfigurationEntry ::= SEQUENCE {
27     lldpXdot1dcbxAdminETSTConCreditBasedShaperSupport      TruthValue,
28     lldpXdot1dcbxAdminETSTConTrafficClassesSupported
29         LldpXdot1dcbxSupportedCapacity,
30     lldpXdot1dcbxAdminETSTConWilling      TruthValue
31 }
32
33 lldpXdot1dcbxAdminETSTConCreditBasedShaperSupport OBJECT-TYPE
34     SYNTAX      TruthValue
35     MAX-ACCESS  read-only
36     STATUS      current
37     DESCRIPTION
38         "Indicates support for the credit-based shaper Traffic
39         Selection Algorithm."
40     REFERENCE
41         "D.2.9.4"
42     ::= { lldpXdot1dcbxAdminETSTBasicConfigurationEntry 1 }
43
44 lldpXdot1dcbxAdminETSTConTrafficClassesSupported OBJECT-TYPE
45     SYNTAX      LldpXdot1dcbxSupportedCapacity
46     MAX-ACCESS  read-only
47     STATUS      current
48     DESCRIPTION
49         "Indicates the number of traffic classes supported."
50     REFERENCE
51         "D.2.9.5"
52     ::= { lldpXdot1dcbxAdminETSTBasicConfigurationEntry 2 }
53
54 lldpXdot1dcbxAdminETSTConWilling OBJECT-TYPE
55     SYNTAX      TruthValue
56     MAX-ACCESS  read-write
57     STATUS      current
58     DESCRIPTION
59         "Indicates if the local system is willing to accept the

```

```

1      ETS configuration recommended by the remote system."
2      REFERENCE
3      "D.2.9.3"
4      DEFVAL      { false }
5      ::= { lldpXdot1dcbxAdminETSTBasicConfigurationEntry 3 }
6
7      lldpXdot1dcbxAdminETSTConPriorityAssignmentTable OBJECT-TYPE
8      SYNTAX      SEQUENCE OF
9      LldpXdot1dcbxAdminETSTConPriorityAssignmentEntry
10     MAX-ACCESS   not-accessible
11     STATUS      current
12     DESCRIPTION
13         "This table contains one row per priority. The entry in each
14         row indicates the traffic class to which the priority is
15         assigned."
16     ::= { lldpXdot1dcbxAdminETSTConfiguration 2 }
17
18     lldpXdot1dcbxAdminETSTConPriorityAssignmentEntry OBJECT-TYPE
19     SYNTAX      LldpXdot1dcbxAdminETSTConPriorityAssignmentEntry
20     MAX-ACCESS   not-accessible
21     STATUS      current
22     DESCRIPTION
23         "Indicates a priority to traffic class assignment."
24     INDEX      {
25         lldpV2LocPortIfIndex,
26         lldpXdot1dcbxAdminETSTConPriority
27     }
28     ::= { lldpXdot1dcbxAdminETSTConPriorityAssignmentTable 1 }
29
30     LldpXdot1dcbxAdminETSTConPriorityAssignmentEntry ::= SEQUENCE {
31         lldpXdot1dcbxAdminETSTConPriority      IEEE8021PriorityValue,
32         lldpXdot1dcbxAdminETSTConPriTrafficClass
33         LldpXdot1dcbxTrafficClassValue
34     }
35
36     lldpXdot1dcbxAdminETSTConPriority OBJECT-TYPE
37     SYNTAX      IEEE8021PriorityValue
38     MAX-ACCESS   not-accessible
39     STATUS      current
40     DESCRIPTION
41         "Indicates the priority that is assigned to a traffic
42         class."
43     REFERENCE
44         "D.2.9.6"
45     ::= { lldpXdot1dcbxAdminETSTConPriorityAssignmentEntry 1 }
46
47     lldpXdot1dcbxAdminETSTConPriTrafficClass OBJECT-TYPE
48     SYNTAX      LldpXdot1dcbxTrafficClassValue
49     MAX-ACCESS   read-write
50     STATUS      current
51     DESCRIPTION
52         "Indicates the traffic class to which this priority is
53         to be assigned."
54     REFERENCE
55         "D.2.9.6"
56     DEFVAL      { 0 }
57     ::= { lldpXdot1dcbxAdminETSTConPriorityAssignmentEntry 2 }
58
59     lldpXdot1dcbxAdminETSTConTrafficClassBandwidthTable OBJECT-TYPE

```

```

1      SYNTAX          SEQUENCE OF
2          LldpXdot1dcbxAdminETSTrafficClassBandwidthEntry
3      MAX-ACCESS      not-accessible
4      STATUS          current
5      DESCRIPTION
6          "This table contains one row per traffic class. The
7          entry in each row indicates the traffic class to
8          which the bandwidth is assigned."
9      ::= { lldpXdot1dcbxAdminETSTrafficClassBandwidthEntry 3 }

10     lldpXdot1dcbxAdminETSTrafficClassBandwidthEntry OBJECT-TYPE
11     SYNTAX          LldpXdot1dcbxAdminETSTrafficClassBandwidthEntry
12     MAX-ACCESS      not-accessible
13     STATUS          current
14     DESCRIPTION
15         "Indicates a traffic class to Bandwidth assignment."
16     INDEX
17         {
18             lldpV2LocPortIfIndex,
19             lldpXdot1dcbxAdminETSTrafficClass
20         }
21     ::= { lldpXdot1dcbxAdminETSTrafficClassBandwidthTable 1 }

22     LldpXdot1dcbxAdminETSTrafficClassBandwidthEntry ::= SEQUENCE {
23         lldpXdot1dcbxAdminETSTrafficClass
24         LldpXdot1dcbxTrafficClassValue,
25         lldpXdot1dcbxAdminETSTrafficClassBandwidth
26         LldpXdot1dcbxTrafficClassBandwidthValue
27     }

28     lldpXdot1dcbxAdminETSTrafficClass OBJECT-TYPE
29     SYNTAX          LldpXdot1dcbxTrafficClassValue
30     MAX-ACCESS      not-accessible
31     STATUS          current
32     DESCRIPTION
33         "Indicates the traffic class to
34         which this bandwidth applies"
35     REFERENCE
36         "D.2.9.7"
37     ::= { lldpXdot1dcbxAdminETSTrafficClassBandwidthEntry 1 }

38     lldpXdot1dcbxAdminETSTrafficClassBandwidth OBJECT-TYPE
39     SYNTAX          LldpXdot1dcbxTrafficClassBandwidthValue
40     MAX-ACCESS      read-write
41     STATUS          current
42     DESCRIPTION
43         "Indicates the bandwidth assigned to this traffic class.
44         The sum of the bandwidths assigned to a given port is
45         required at all times to equal 100. An operation that
46         attempts to change this table such that the bandwidth
47         entries do not total 100 shall be rejected. An implication
48         of this is that modification of this table requires that
49         multiple set operations be included in a single SNMP PDU,
50         commonly referred to as an MSET operation, to perform
51         simultaneous set operations to keep the sum at 100. Any
52         attempt to change a single entry in this table will result
53         in the operation being rejected since entries in the
54         table referring to the given port will no longer
55         sum to 100."
56     REFERENCE

```

```

1      "D.2.9.7"
2      ::= { lldpXdot1dcbxAdminETSTrafficClassBandwidthEntry 2 }
3
4      lldpXdot1dcbxAdminETSTrafficSelectionAlgorithmTable OBJECT-TYPE
5          SYNTAX      SEQUENCE OF
6              LldpXdot1dcbxAdminETSTrafficSelectionAlgorithmEntry
7          MAX-ACCESS   not-accessible
8          STATUS      current
9          DESCRIPTION
10             "This table contains one row per traffic class. The entry
11             in each row indicates the traffic selection algorithm to
12             be used by the priority."
13
14             ::= { lldpXdot1dcbxAdminETSConfiguration 4 }
15
16      lldpXdot1dcbxAdminETSTrafficSelectionAlgorithmEntry OBJECT-TYPE
17          SYNTAX      LldpXdot1dcbxAdminETSTrafficSelectionAlgorithmEntry
18          MAX-ACCESS   not-accessible
19          STATUS      current
20          DESCRIPTION
21             "Indicates a traffic class to traffic selection
22             algorithm assignment."
23
24             INDEX      {
25                 lldpV2LocPortIfIndex,
26                 lldpXdot1dcbxAdminETSConTSATrafficClass
27             }
28             ::= { lldpXdot1dcbxAdminETSTrafficSelectionAlgorithmTable 1 }
29
30      LldpXdot1dcbxAdminETSTrafficSelectionAlgorithmEntry ::= SEQUENCE {
31          lldpXdot1dcbxAdminETSConTSATrafficClass
32              LldpXdot1dcbxTrafficClassValue,
33          lldpXdot1dcbxAdminETSTrafficSelectionAlgorithm
34              LldpXdot1dcbxTrafficSelectionAlgorithm
35      }
36
37      lldpXdot1dcbxAdminETSConTSATrafficClass OBJECT-TYPE
38          SYNTAX      LldpXdot1dcbxTrafficClassValue
39          MAX-ACCESS   not-accessible
40          STATUS      current
41          DESCRIPTION
42             "Indicates the traffic class that is assigned
43             to a traffic selection algorithm."
44
45          REFERENCE
46             "D.2.9.8"
47
48             ::= { lldpXdot1dcbxAdminETSTrafficSelectionAlgorithmEntry 1 }
49
50      lldpXdot1dcbxAdminETSTrafficSelectionAlgorithm OBJECT-TYPE
51          SYNTAX      LldpXdot1dcbxTrafficSelectionAlgorithm
52          MAX-ACCESS   read-write
53          STATUS      current
54          DESCRIPTION
55             "Indicates the Traffic Selection Algorithm to which this
56             traffic class is to be assigned."
57
58          REFERENCE
59             "D.2.9.8"
60
61             ::= { lldpXdot1dcbxAdminETSTrafficSelectionAlgorithmEntry 2 }
62
63      --
64      -- lldpXdot1dcbxAdminETSRecommendationTable - Contains the information

```



```

1  -- for the ETS Recommendation TLV.
2  --
3  lldpXdot1dcbxAdminETSReco OBJECT IDENTIFIER ::=
4      { lldpXdot1dcbxAdminData 2 }
5
6  lldpXdot1dcbxAdminETSRecoTrafficClassBandwidthTable OBJECT-TYPE
7      SYNTAX          SEQUENCE OF
8          LldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry
9      MAX-ACCESS      not-accessible
10     STATUS          current
11     DESCRIPTION
12         "This table contains one row per traffic class. The
13         entry in each row indicates the traffic class to
14         which the bandwidth is assigned."
15     ::= { lldpXdot1dcbxAdminETSReco 1 }
16
17 lldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry OBJECT-TYPE
18     SYNTAX          LldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry
19     MAX-ACCESS      not-accessible
20     STATUS          current
21     DESCRIPTION
22         "Indicates a traffic class to Bandwidth assignment."
23     INDEX
24         {
25             lldpV2LocPortIfIndex,
26             lldpXdot1dcbxAdminETSRecoTrafficClass
27         }
28     ::= { lldpXdot1dcbxAdminETSRecoTrafficClassBandwidthTable 1 }
29
30 LldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry ::= SEQUENCE {
31     lldpXdot1dcbxAdminETSRecoTrafficClass
32         LldpXdot1dcbxTrafficClassValue,
33     lldpXdot1dcbxAdminETSRecoTrafficClassBandwidth
34         LldpXdot1dcbxTrafficClassBandwidthValue
35 }
36
37 lldpXdot1dcbxAdminETSRecoTrafficClass OBJECT-TYPE
38     SYNTAX          LldpXdot1dcbxTrafficClassValue
39     MAX-ACCESS      not-accessible
40     STATUS          current
41     DESCRIPTION
42         "Indicates the traffic class to
43         which this bandwidth applies"
44     REFERENCE
45         "D.2.10.4"
46     ::= { lldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry 1 }
47
48 lldpXdot1dcbxAdminETSRecoTrafficClassBandwidth OBJECT-TYPE
49     SYNTAX          LldpXdot1dcbxTrafficClassBandwidthValue
50     MAX-ACCESS      read-write
51     STATUS          current
52     DESCRIPTION
53         "Indicates the bandwidth assigned to this traffic class.
54         The sum of the bandwidths assigned to a given port is
55         required at all times to equal 100. An operation that
56         attempts to change this table such that the bandwidth
57         entries do not total 100 shall be rejected. An implication
58         of this is that modification of this table requires that
59         multiple set operations be included in a single SNMP PDU,
60         commonly referred to as an MSET operation, to perform

```

```

1      simultaneous set operations to keep the sum at 100. Any
2      attempt to change a single entry in this table will result
3      in the operation being rejected since entries in the
4      table referring to the given port will no longer
5      sum to 100."
6
7      REFERENCE
8          "D.2.10.4"
9      ::= { lldpXdot1dcbxAdminETSRecoTrafficClassBandwidthEntry 2 }
10
11 lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmTable OBJECT-TYPE
12     SYNTAX      SEQUENCE OF
13         LldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmEntry
14     MAX-ACCESS   not-accessible
15     STATUS       current
16     DESCRIPTION
17         "This table contains one row per traffic class. The entry
18         in each row indicates the traffic selection algorithm to
19         be used by the traffic class."
20     ::= { lldpXdot1dcbxAdminETSReco 2 }
21
22 lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmEntry OBJECT-TYPE
23     SYNTAX      LldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmEntry
24     MAX-ACCESS   not-accessible
25     STATUS       current
26     DESCRIPTION
27         "Indicates a traffic class to traffic selection
28         algorithm assignment."
29     INDEX
30         {
31             lldpV2LocPortIfIndex,
32             lldpXdot1dcbxAdminETSRecoTSATrafficClass
33         }
34     ::= { lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmTable 1 }
35
36 lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmEntry ::= SEQUENCE {
37     lldpXdot1dcbxAdminETSRecoTSATrafficClass
38     LldpXdot1dcbxTrafficClassValue,
39     lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithm
40     LldpXdot1dcbxTrafficSelectionAlgorithm
41 }
42
43 lldpXdot1dcbxAdminETSRecoTSATrafficClass OBJECT-TYPE
44     SYNTAX      LldpXdot1dcbxTrafficClassValue
45     MAX-ACCESS   not-accessible
46     STATUS       current
47     DESCRIPTION
48         "Indicates the traffic class that is assigned to a traffic
49         selection algorithm."
50     REFERENCE
51         "D.2.10.5"
52     ::= { lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithmEntry 1 }
53
54 lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithm OBJECT-TYPE
55     SYNTAX      LldpXdot1dcbxTrafficSelectionAlgorithm
56     MAX-ACCESS   read-write
57     STATUS       current
58     DESCRIPTION
59         "Indicates the Traffic Selection Algorithm to which this
60         traffic class is to be assigned."

```

```

1      REFERENCE
2      "D.2.10.5"
3      ::= { lldpXdot1dcbxAdminETSTrafficSelectionAlgorithmEntry 2 }
4
5      --
6      -- lldpXdot1dcbxAdminPFCBTable - Contains the information for the PFC
7      -- Configuration TLV.
8      --
9      lldpXdot1dcbxAdminPFC OBJECT IDENTIFIER ::= { lldpXdot1dcbxAdminData 3 }
10
11     lldpXdot1dcbxAdminPFCBasicTable OBJECT-TYPE
12         SYNTAX      SEQUENCE OF LldpXdot1dcbxAdminPFCBasicEntry
13         MAX-ACCESS   not-accessible
14         STATUS      current
15         DESCRIPTION
16             "This table contains one row per port for the IEEE 802.1
17             organizationally defined LLDP PFC TLV on the local
18             system known to this agent"
19             ::= { lldpXdot1dcbxAdminPFC 1 }
20
21     lldpXdot1dcbxAdminPFCBasicEntry OBJECT-TYPE
22         SYNTAX      LldpXdot1dcbxAdminPFCBasicEntry
23         MAX-ACCESS   not-accessible
24         STATUS      current
25         DESCRIPTION
26             "Information about the IEEE 802.1 organizational defined
27             PFC TLV LLDP extension."
28         INDEX       { lldpV2LocPortIfIndex }
29         ::= { lldpXdot1dcbxAdminPFCBasicTable 1 }
30
31     LldpXdot1dcbxAdminPFCBasicEntry ::= SEQUENCE {
32         lldpXdot1dcbxAdminPFCWilling      TruthValue,
33         lldpXdot1dcbxAdminPFCMBC          TruthValue,
34         lldpXdot1dcbxAdminPFCCap          LldpXdot1dcbxSupportedCapacity
35     }
36
37     lldpXdot1dcbxAdminPFCWilling OBJECT-TYPE
38         SYNTAX      TruthValue
39         MAX-ACCESS   read-write
40         STATUS      current
41         DESCRIPTION
42             "Indicates if the local system is willing to accept the
43             PFC configuration of the remote system."
44         REFERENCE
45             "D.2.11.3"
46         DEFVAL      { false }
47         ::= { lldpXdot1dcbxAdminPFCBasicEntry 1 }
48
49     lldpXdot1dcbxAdminPFCMBC OBJECT-TYPE
50         SYNTAX      TruthValue
51         MAX-ACCESS   read-only
52         STATUS      current
53         DESCRIPTION
54             "Indicates if the local system is capable of bypassing
55             MACsec processing when MACsec is disabled."
56         REFERENCE
57             "D.2.11.4"
58         ::= { lldpXdot1dcbxAdminPFCBasicEntry 2}

```

```

1  lldpXdot1dcbxAdminPFCCap OBJECT-TYPE
2      SYNTAX          LldpXdot1dcbxSupportedCapacity
3      MAX-ACCESS      read-only
4      STATUS          current
5      DESCRIPTION
6          "Indicates the number of traffic classes on the local device
7              that may simultaneously have PFC enabled.
8
9              Note that this typically indicates a physical limitation of the
10             device. However, some devices may allow this parameter to be
11             administratively configured, in which case the MAX-ACCESS
12             should be changed to read-write with and an appropriate
13             DEFVAL added."
14      REFERENCE
15          "D.2.11.5"
16      ::= { lldpXdot1dcbxAdminPFCBasicEntry 3 }
17
18  lldpXdot1dcbxAdminPFCEnableTable OBJECT-TYPE
19      SYNTAX          SEQUENCE OF LldpXdot1dcbxAdminPFCEnableEntry
20      MAX-ACCESS      not-accessible
21      STATUS          current
22      DESCRIPTION
23          "This table contains eight entries, one entry per priority,
24              indicating if PFC is enabled on the corresponding priority."
25      ::= { lldpXdot1dcbxAdminPFC 2 }
26
27  lldpXdot1dcbxAdminPFCEnableEntry OBJECT-TYPE
28      SYNTAX          LldpXdot1dcbxAdminPFCEnableEntry
29      MAX-ACCESS      not-accessible
30      STATUS          current
31      DESCRIPTION
32          "Each entry indicates if PFC is enabled on the
33              correponding priority"
34      INDEX {
35          lldpV2LocPortIfIndex,
36          lldpXdot1dcbxAdminPFCEnablePriority
37      }
38      ::= { lldpXdot1dcbxAdminPFCEnableTable 1 }
39
40  LldpXdot1dcbxAdminPFCEnableEntry ::= SEQUENCE {
41      lldpXdot1dcbxAdminPFCEnablePriority  IEEE8021PriorityValue,
42      lldpXdot1dcbxAdminPFCEnableEnabled  TruthValue
43  }
44
45  lldpXdot1dcbxAdminPFCEnablePriority OBJECT-TYPE
46      SYNTAX          IEEE8021PriorityValue
47      MAX-ACCESS      not-accessible
48      STATUS          current
49      DESCRIPTION
50          "Prioiy for which PFC is enabled / disabled"
51      ::= { lldpXdot1dcbxAdminPFCEnableEntry 1 }
52
53  lldpXdot1dcbxAdminPFCEnableEnabled OBJECT-TYPE
54      SYNTAX          TruthValue
55      MAX-ACCESS      read-write
56      STATUS          current
57      DESCRIPTION
58          "Indicates if PFC is enabled on the corresponding priority"
59      REFERENCE

```

```

1      "D.2.11.6"
2      DEFVAL      { false }
3      ::= { lldpXdot1dcbxAdminPFCEnableEntry 2 }
4
5      --
6      -- lldpXdot1dcbxAdminApplicationPriorityTable - Contains the
7      -- information for the Application Priority TLV.
8      --
9      lldpXdot1dcbxAdminApplicationPriorityAppTable OBJECT-TYPE
10     SYNTAX      SEQUENCE OF
11         LldpXdot1dcbxAdminApplicationPriorityAppEntry
12     MAX-ACCESS   not-accessible
13     STATUS      current
14     DESCRIPTION
15         "Table containing entries indicating the priority to be used
16         for a given application"
17     ::= { lldpXdot1dcbxAdminData 4 }
18
19     lldpXdot1dcbxAdminApplicationPriorityAppEntry OBJECT-TYPE
20     SYNTAX      LldpXdot1dcbxAdminApplicationPriorityAppEntry
21     MAX-ACCESS   not-accessible
22     STATUS      current
23     DESCRIPTION
24         "Entry that indicates the priority to be used for a
25         given application."
26     INDEX      {
27         lldpV2LocPortIfIndex,
28         lldpXdot1dcbxAdminApplicationPriorityAESelector,
29         lldpXdot1dcbxAdminApplicationPriorityAEProtocol
30     }
31     ::= { lldpXdot1dcbxAdminApplicationPriorityAppTable 1 }
32
33     LldpXdot1dcbxAdminApplicationPriorityAppEntry ::= SEQUENCE {
34         lldpXdot1dcbxAdminApplicationPriorityAESelector
35         LldpXdot1dcbxAppSelector,
36         lldpXdot1dcbxAdminApplicationPriorityAEProtocol
37         LldpXdot1dcbxAppProtocol,
38         lldpXdot1dcbxAdminApplicationPriorityAEPriority
39         IEEE8021PriorityValue
40     }
41
42     lldpXdot1dcbxAdminApplicationPriorityAESelector OBJECT-TYPE
43     SYNTAX      LldpXdot1dcbxAppSelector
44     MAX-ACCESS   not-accessible
45     STATUS      current
46     DESCRIPTION
47         "Indicates the contents of the protocol object
48         (lldpXdot1dcbxAdminApplicationPriorityAEProtocol)
49         1: Ethertype
50         2: Well Known Port number over TCP, or SCTP
51         3: Well Known Port number over UDP, or DCCP
52         4: Well Known Port number over TCP, SCTP, UDP, and DCCP"
53     REFERENCE
54         "D.2.11.6"
55     ::= { lldpXdot1dcbxAdminApplicationPriorityAppEntry 1 }
56
57     lldpXdot1dcbxAdminApplicationPriorityAEProtocol OBJECT-TYPE
58     SYNTAX      LldpXdot1dcbxAppProtocol

```

```

1      MAX-ACCESS      not-accessible
2      STATUS          current
3      DESCRIPTION
4          "The protocol indicator of the type indicated by
5          lldpXdot1dcbxAdminApplicationPriorityAESelector."
6      REFERENCE
7          "D.2.11.6"
8      ::= { lldpXdot1dcbxAdminApplicationPriorityAppEntry 2 }
9
10     lldpXdot1dcbxAdminApplicationPriorityAEPriority OBJECT-TYPE
11     SYNTAX          IEEE8021PriorityValue
12     MAX-ACCESS      read-create
13     STATUS          current
14     DESCRIPTION
15         "The priority code point that should be used in
16         frames transporting the protocol indicated by
17         lldpXdot1dcbxAdminApplicationPriorityAESelector and
18         lldpXdot1dcbxAdminApplicationPriorityAEProtocol"
19     REFERENCE
20         "D.2.11.6"
21     ::= { lldpXdot1dcbxAdminApplicationPriorityAppEntry 3 }
22
23     -----
24     -- IEEE 802.1 - DCBX Conformance Information
25     -----
26     lldpXdot1dcbxConformance OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 6 }
27     lldpXdot1dcbxCompliances
28         OBJECT IDENTIFIER ::= { lldpXdot1dcbxConformance 1 }
29     lldpXdot1dcbxGroups
30         OBJECT IDENTIFIER ::= { lldpXdot1dcbxConformance 2 }
31
32     --
33     -- Compliance Statements
34     --
35
36     lldpXdot1dcbxCompliance MODULE-COMPLIANCE
37     STATUS          current
38     DESCRIPTION
39         "A compliance statement for SNMP entities that implement
40         the IEEE 802.1 organizationally defined DCBX LLDP
41         extension MIB.
42
43         This group is mandatory for agents which implement Enhanced
44         Transmission Selection."
45     MODULE          -- this module
46     MANDATORY-GROUPS { lldpXdot1dcbxETSGroup,
47                        lldpXdot1dcbxPFCGroup,
48                        lldpXdot1dcbxApplicationPriorityGroup,
49                        ifGeneralInformationGroup
50                    }
51     ::= { lldpXdot1dcbxCompliances 1 }
52
53     --
54     -- MIB Groupings
55     --
56
57     lldpXdot1dcbxETSGroup OBJECT-GROUP
58     OBJECTS {
59         lldpXdot1dcbxConfigETSConfigurationTxEnable,

```

```

1      lldpXdot1dcbxConfigETSRecommendationTxEnable,
2      lldpXdot1dcbxLocETSConCreditBasedShaperSupport,
3      lldpXdot1dcbxLocETSConTrafficClassesSupported,
4      lldpXdot1dcbxLocETSConWilling,
5      lldpXdot1dcbxLocETSConPriTrafficClass,
6      lldpXdot1dcbxLocETSConTrafficClassBandwidth,
7      lldpXdot1dcbxLocETSConTrafficSelectionAlgorithm,
8      lldpXdot1dcbxLocETSRecoTrafficClassBandwidth,
9      lldpXdot1dcbxLocETSRecoTrafficSelectionAlgorithm,
10     lldpXdot1dcbxRemETSConCreditBasedShaperSupport,
11     lldpXdot1dcbxRemETSConTrafficClassesSupported,
12     lldpXdot1dcbxRemETSConWilling,
13     lldpXdot1dcbxRemETSConPriTrafficClass,
14     lldpXdot1dcbxRemETSConTrafficClassBandwidth,
15     lldpXdot1dcbxRemETSConTrafficSelectionAlgorithm,
16     lldpXdot1dcbxRemETSRecoTrafficClassBandwidth,
17     lldpXdot1dcbxRemETSRecoTrafficSelectionAlgorithm,
18     lldpXdot1dcbxAdminETSConCreditBasedShaperSupport,
19     lldpXdot1dcbxAdminETSConTrafficClassesSupported,
20     lldpXdot1dcbxAdminETSConWilling,
21     lldpXdot1dcbxAdminETSConPriTrafficClass,
22     lldpXdot1dcbxAdminETSConTrafficClassBandwidth,
23     lldpXdot1dcbxAdminETSConTrafficSelectionAlgorithm,
24     lldpXdot1dcbxAdminETSRecoTrafficClassBandwidth,
25     lldpXdot1dcbxAdminETSRecoTrafficSelectionAlgorithm
26 }
27 STATUS current
28 DESCRIPTION
29     "The collection of objects used for Enhanced
30     Transmission Selection."
31 ::= { lldpXdot1dcbxGroups 1 }
32
33 lldpXdot1dcbxPFCGroup OBJECT-GROUP
34 OBJECTS {
35     lldpXdot1dcbxConfigPFCTxEnable,
36     lldpXdot1dcbxLocPFCWilling,
37     lldpXdot1dcbxLocPFCMBC,
38     lldpXdot1dcbxLocPFCCap,
39     lldpXdot1dcbxLocPFCEnableEnabled,
40     lldpXdot1dcbxRemPFCWilling,
41     lldpXdot1dcbxRemPFCMBC,
42     lldpXdot1dcbxRemPFCCap,
43     lldpXdot1dcbxRemPFCEnableEnabled,
44     lldpXdot1dcbxAdminPFCWilling,
45     lldpXdot1dcbxAdminPFCMBC,
46     lldpXdot1dcbxAdminPFCCap,
47     lldpXdot1dcbxAdminPFCEnableEnabled
48 }
49 STATUS current
50 DESCRIPTION
51     "The collection of objects used for Priority-
52     base Flow Control."
53 ::= { lldpXdot1dcbxGroups 2 }
54
55 lldpXdot1dcbxApplicationPriorityGroup OBJECT-GROUP
56 OBJECTS {
57     lldpXdot1dcbxConfigApplicationPriorityTxEnable,
58     lldpXdot1dcbxLocApplicationPriorityAEPriority,
59     lldpXdot1dcbxRemApplicationPriorityAEPriority,

```

```

1      lldpXdot1dcbxAdminApplicationPriorityAEPriority
2      }
3      STATUS current
4      DESCRIPTION
5          "The collection of objects used for Application
6          priority."
7      ::= { lldpXdot1dcbxGroups 3 }
8      -----
9      --
10     -- Organizationally Defined Information Extension - IEEE 802.1
11     -- Definitions to support Port Extension
12     -- peSet TLV set (Table D-1)
13     --
14     -----
15
16     lldpXdot1PeMIB          OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 7 }
17     lldpXdot1PeObjects     OBJECT IDENTIFIER ::= { lldpXdot1PeMIB 1 }
18
19     -- Port Extension 802.1 MIB Extension groups
20
21     lldpXdot1PeConfig      OBJECT IDENTIFIER ::= { lldpXdot1PeObjects 1 }
22     lldpXdot1PeLocalData   OBJECT IDENTIFIER ::= { lldpXdot1PeObjects 2 }
23     lldpXdot1PeRemoteData  OBJECT IDENTIFIER ::= { lldpXdot1PeObjects 3 }
24
25     -----
26     -- IEEE 802.1 - Configuration for the peSet TLV set
27     -----
28     --
29     -- lldpV2Xdot1PeConfigPortExtensionTable : configure the transmission
30     -- of the Port Extension TLVs on a set of ports.
31     --
32     lldpXdot1PeConfigPortExtensionTable OBJECT-TYPE
33         SYNTAX SEQUENCE OF LldpXdot1PeConfigPortExtensionEntry
34         MAX-ACCESS not-accessible
35         STATUS current
36         DESCRIPTION
37             "A table that controls selection of LLDP Port Extension
38             TLVs to be transmitted on individual ports."
39         ::= { lldpXdot1PeConfig 1 }
40
41     lldpXdot1PeConfigPortExtensionEntry OBJECT-TYPE
42         SYNTAX LldpXdot1PeConfigPortExtensionEntry
43         MAX-ACCESS not-accessible
44         STATUS current
45         DESCRIPTION
46             "LLDP configuration information that specifies Port
47             Extension configuration.
48             This configuration object augments the
49             lldpV2Xdot1LocPortExtensionEntry, therefore it is
50             only present along with the associated
51             lldpV2Xdot1LocPortExtensionEntry entry.
52             Each active lldpV2Xdot1ConfigPortExtensionEntry must be
53             restored from non-volatile storage (along with the
54             corresponding lldpV2Xdot1LocPortExtensionEntry) after a
55             re-initialization of the management system."
56         AUGMENTS { lldpV2PortConfigEntry }
57         ::= { lldpXdot1PeConfigPortExtensionTable 1 }

```



```

1
2  LldpXdot1PeConfigPortExtensionEntry ::= SEQUENCE {
3      lldpXdot1PeConfigPortExtensionTxEnable TruthValue
4  }
5
6  lldpXdot1PeConfigPortExtensionTxEnable OBJECT-TYPE
7      SYNTAX TruthValue
8      MAX-ACCESS read-write
9      STATUS current
10     DESCRIPTION
11         "The lldpXdot1PeConfigPortExtensionTxEnable, which is
12         defined as a truth value and configured by the network
13         management, determines whether the IEEE 802.1
14         organizationally defined Port Extension TLV transmission
15         is allowed on a given LLDP transmission capable port.
16         The value of this object must be restored from
17         non-volatile storage after a re-initialization of the
18         management system."
19     REFERENCE
20         "D.8 of 802.1Q"
21     DEFVAL { false }
22 ::= { lldpXdot1PeConfigPortExtensionEntry 1 }
23
24 -----
25 -- IEEE 802.1 - Port Extension Local System Information
26 -----
27
28 ---
29 --- lldpXdot1PeLocPortExtensionTable: Port Extension Information Table
30 ---
31
32 lldpXdot1PeLocPortExtensionTable OBJECT-TYPE
33     SYNTAX      SEQUENCE OF LldpXdot1PeLocPortExtensionEntry
34     MAX-ACCESS  not-accessible
35     STATUS      current
36     DESCRIPTION
37         "This table contains one row per port of Port Extension
38         information (as a part of the LLDP 802.1 organizational
39         extension) on the local system known to this agent."
40 ::= { lldpXdot1PeLocalData 1 }
41
42 lldpXdot1PeLocPortExtensionEntry OBJECT-TYPE
43     SYNTAX      LldpXdot1PeLocPortExtensionEntry
44     MAX-ACCESS  not-accessible
45     STATUS      current
46     DESCRIPTION
47         "Port Extension information about a particular
48         Port Extender Port."
49     INDEX      { lldpV2LocPortIfIndex }
50 ::= { lldpXdot1PeLocPortExtensionTable 1 }
51
52 LldpXdot1PeLocPortExtensionEntry ::= SEQUENCE {
53     lldpXdot1PeLocPECascadePortPriority Unsigned32,
54     lldpXdot1PeLocPEAddress             MacAddress,
55     lldpXdot1PeLocPECSPAddress          MacAddress
56 }
57
58 lldpXdot1PeLocPECascadePortPriority OBJECT-TYPE
59     SYNTAX      Unsigned32 (0..255)

```

```

1      MAX-ACCESS    read-write
2      STATUS        current
3      DESCRIPTION
4          "Contains the cascade port priority."
5      REFERENCE
6          "D.8"
7      ::= { lldpXdot1PeLocPortExtensionEntry 1 }
8
9  lldpXdot1PeLocPEAddress OBJECT-TYPE
10     SYNTAX          MacAddress
11     MAX-ACCESS      read-only
12     STATUS          current
13     DESCRIPTION
14         "This object contains the MAC address that
15         uniquely identifies the Port Extender."
16     REFERENCE
17         "D.8"
18     ::= { lldpXdot1PeLocPortExtensionEntry 2 }
19
20 lldpXdot1PeLocPECSPAddress OBJECT-TYPE
21     SYNTAX          MacAddress
22     MAX-ACCESS      read-only
23     STATUS          current
24     DESCRIPTION
25         "This object contains the MAC address to be used
26         for the Port Extension control and status protocol."
27     REFERENCE
28         "D.8"
29     ::= { lldpXdot1PeLocPortExtensionEntry 3 }
30
31 -----
32 -- IEEE 802.1 - Port Extension Remote System Information
33 -----
34 ---
35 --- lldpXdot1PeRemPortExtensionTable: Port Extension Information Table
36 ---
37 lldpXdot1PeRemPortExtensionTable OBJECT-TYPE
38     SYNTAX          SEQUENCE OF LldpXdot1PeRemPortExtensionEntry
39     MAX-ACCESS      not-accessible
40     STATUS          current
41     DESCRIPTION
42         "This table contains Port Extension information
43         (as a part of the LLDP IEEE 802.1 organizational extension)
44         of the remote system."
45     ::= { lldpXdot1PeRemoteData 1 }
46
47 lldpXdot1PeRemPortExtensionEntry OBJECT-TYPE
48     SYNTAX          LldpXdot1PeRemPortExtensionEntry
49     MAX-ACCESS      not-accessible
50     STATUS          current
51     DESCRIPTION
52         "Port Extension information about remote systems port
53         component."
54     INDEX          { lldpV2RemTimeMark,
55                     lldpV2RemLocalIfIndex,
56                     lldpV2RemLocalDestMACAddress,
57                     lldpV2RemIndex }

```

```

1      ::= { lldpXdot1PeRemPortExtensionTable 1 }
2
3      LldpXdot1PeRemPortExtensionEntry ::= SEQUENCE {
4          lldpXdot1PeRemPECascadePortPriority Unsigned32,
5          lldpXdot1PeRemPEAddress             MacAddress,
6          lldpXdot1PeRemPECSPAddress          MacAddress
7      }
8
9      lldpXdot1PeRemPECascadePortPriority OBJECT-TYPE
10         SYNTAX      Unsigned32 (0..255)
11         MAX-ACCESS  read-only
12         STATUS      current
13         DESCRIPTION
14             "The cascade port priority."
15         REFERENCE
16             "D.8"
17     ::= { lldpXdot1PeRemPortExtensionEntry 1 }
18
19     lldpXdot1PeRemPEAddress OBJECT-TYPE
20         SYNTAX      MacAddress
21         MAX-ACCESS  read-only
22         STATUS      current
23         DESCRIPTION
24             "This object contains the MAC address that
25             uniquely identifies the Port Extender."
26         REFERENCE
27             "D.8"
28     ::= { lldpXdot1PeRemPortExtensionEntry 2 }
29
30     lldpXdot1PeRemPECSPAddress OBJECT-TYPE
31         SYNTAX      MacAddress
32         MAX-ACCESS  read-only
33         STATUS      current
34         DESCRIPTION
35             "This object contains the MAC address to be used
36             for the Port Extension Control and Status Protocol."
37         REFERENCE
38             "D.8"
39     ::= { lldpXdot1PeRemPortExtensionEntry 3 }
40
41     -----
42     -- IEEE 802.1 - Port Extension Conformance Information
43     -----
44
45     lldpXdot1PeConformance OBJECT IDENTIFIER ::= { lldpV2Xdot1MIB 8 }
46
47     lldpXdot1PeCompliances
48         OBJECT IDENTIFIER ::= { lldpXdot1PeConformance 1 }
49     lldpXdot1PeGroups OBJECT IDENTIFIER ::= { lldpXdot1PeConformance 2 }
50
51     --
52     -- Port Extension - Compliance Statements
53     --
54
55     lldpXdot1PeCompliance MODULE-COMPLIANCE
56         STATUS      current
57         DESCRIPTION
58             "A compliance statement for SNMP entities that implement
59             the IEEE 802.1 organizationally defined Port Extension

```

```

1      LLDP extension MIB.
2
3      This group is mandatory for agents that implement the
4      Port Extension peSet TLV set."
5  MODULE      -- this module
6      MANDATORY-GROUPS { lldpXdot1PeGroup,
7                          ifGeneralInformationGroup }
8
9      ::= { lldpXdot1PeCompliances 1 }
10
11  --
12  -- Port Extension - MIB groupings
13  --
14
15  lldpXdot1PeGroup  OBJECT-GROUP
16      OBJECTS {
17          lldpXdot1PeConfigPortExtensionTxEnable,
18          lldpXdot1PeLocPECascadePortPriority,
19          lldpXdot1PeLocPEAddress,
20          lldpXdot1PeLocPECSPAddress,
21          lldpXdot1PeRemPECascadePortPriority,
22          lldpXdot1PeRemPEAddress,
23          lldpXdot1PeRemPECSPAddress
24      }
25
26      STATUS      current
27      DESCRIPTION
28          "The collection of objects that support the
29          Port Extension peSet TLV set."
30
31      ::= { lldpXdot1PeGroups 1 }
32
33  END
34
35
36
```

D.5.3 Major capabilities and options

Insert the following TLV at the end of the table in D.5.3:

Item	Feature	Status	References	Support
dot1peSet	Is the IEEE 802.1 Organizationally Specific TLV peSet implemented?	O.3	D.1, Table D.1	Yes <input type="checkbox"/>
dot1petlv	Is each TLV in the IEEE 802.1 Organizationally specific TLV peSet implemented?			
	Port Extension TLV	peSet: M	D.2.15	Yes <input type="checkbox"/> No <input type="checkbox"/>

Annex Z (informative)

COMMENTARY

<<Editor's Note: This is a temporary Annex intended to record issues/resolutions thereof as the project proceeds. It will be removed prior to Sponsor ballot, and should be ignored for the purpose of TG/WG ballot.>>

Z.1 Length of M-TAG

The M-TAG currently contains a 16-bit reserved field for the purpose of creating a tag that is eight octet in length. The contents of this tag could fit in a six octet field; however, many expressed a strong desire to make the tags multiples of four octets in length to facilitate the internal bus sizes within ASICs. During the March 2010 plenary meeting, concern was raised that 32-bits of reserved field was excessive and could cause issues in the future. No consensus was reached, therefore the tag continues to be specified as eight octets for now.

Update for draft 0.3: Since no comments were received on this issue during the ballot of the 0.2 draft, the editor believes this issue closed.

Update for draft 0.4: There was strong consensus that keeping the tag length a multiple of four bytes is desirable.

Update for draft 0.5: This item is now currently moot since the M-TAG was removed. The new E-TAG has a similar issue which is discussed in Z.7.

Z.2 Determination of the M-channel identifier.

During the March 2010 meeting there was discussion regarding the best way to integrate determination of the MCID into the filtering database. At that time, it was the editors opinion that adding this field to the existing tables within the filtering database was the best solution. Paul Congdon suggested that a better approach would be to create a separate table that uses the “pattern” of the Ports to which a frame is to be forwarded as a key to look-up the MCID. After some thought, the editor concurs with this approach.

The one downside of this approach is that it makes the implementation appear to be much more complex than it actually is. In most real implementations, the various filtering tables described in this specification are reduced to a single forwarding table. In general, for a frame that requires multicast, the forwarding table refers to a bit mask of Ports to which the frame is to be forwarded. The MCID may simply be added to this table.

The editor solicits additional commentary on this issue and possible alternatives.

Update for draft 0.3: Paul's approach was integrated into draft 0.2 One comment was received during the ballot of draft 0.2 suggesting that the MCID could be determined based on the lookup of the VID/ MAC address. This approach is inconsistent with the way the filtering database is defined in the standard and was rejected. Since no other alternative methods were received during the ballot of the 0.2 draft, the editor believes this issue closed.

Update for draft 0.5: This was discussed during the ballot resolution of draft 0.4. The conclusion was to leave the mechanism as is, but to add a note that a MAC/FID implementation is also possible. This has been done in draft 0.5. Also, the MCID has been replaced with an E-VID in draft 0.5.

Z.3 New Parameters in the EM_UNIDATA.request indication

This specification places the generation of the M-TAG in the EISS consistent with the generation of other tags. The EISS requires information from the MAC Relay Entity to determine if the M-TAG should be generated and its contents. Two parameters are added to the EM_UNIDATA.request indication to support this: m-channel_identifier and source_s-vid. Concern was raised regarding the addition of these parameters. No definite alternatives were discussed; however, overloading existing parameters within this indication was mentioned as a possibility. The editor solicits additional commentary on the basis for this concern and possible alternatives.

Update for draft 0.3: The consensus from the ballot comment resolution of the 0.2 draft was to not create new parameters. Instead, the connection_identifier parameter will be used. The editor believes this issue closed.

Update for draft 0.5: with the creation of the E-component, it is no longer necessary to carry two parameters in connection_identifier. In this draft, the connection_identifier is used to carry the source E-VID and the vlan_identifier parameter is used to carry the VID.

Update for draft 1.0: The editor believes this issue is closed.

Update for draft 1.1: There was an error in draft 1.0. The connection_identifier is required to carry both the E-CID and Ingress_E-CID.

Update for draft 1.2: During the review of the comments for draft 1.1, the question was again raised if the E-CID and ingress_E-CID items should be part of the connection_identifier versus separate parameters. There seemed to be a lack of consensus to change it, so they remain part of the connection_identifier.

Z.4 C-VLAN tag processing by Port Extenders

Port Extenders need to do some limiting processing of C-VLAN tags. The priority and drop eligible bit needs to be reflected from the C-VLAN to the S-VLAN tag. If a C-VLAN tag is not present, then default values must be used. Potentially, it could be useful to have the Port Extender add a C-VLAN tag to an untagged frame. Finally, the Port Extender should be able to strip C-VLAN tags on egress if they are part of an untagged set. This is a little unnatural for a Port Extender since it is based on a Port-mapping S-VLAN component. The editor added a shim similar to that in 6.20 to perform these functions. Other methods are possible. The editor solicits additional commentary on the alternatives.

Update for draft 0.3: Since no comments were received on this issue during the ballot of the 0.2 draft, the editor believes this issue closed.

Update for draft 0.4: During the July, 2010 Plenary meeting in San Diego, additional comment was received regarding the possibility of using the mechanisms in 6.13 or 6.20.

The mechanism in 6.13 does not perform the needed function. It is necessary for a Port Extender to process the C-VLAN member and untagged sets in the same manner as a customer bridge. The mechanism in 6.13 would require that external devices signal priority using an S-TAG. This is not consistent with how customer bridges operate.

The mechanism in 6.20 simply allows for the recognition of a priority tagged frame. A Port Extender needs to handle a C-tagged frame.

Consequently, the editor retained the shim in 6.21 and made some simplifications to the wording.

Update for draft 0.5: The functionality of the shim has been greatly reduced. It is assumed that the functionality removed will be performed by the VLAN-aware bridge component to which the E-component is attached.

Update for draft 1.0: The editor believes this issue is closed

Update for draft 1.1: The functionality of this shim has been moved from Clause 6 to Clause 45.

Update for draft 2.0: This has been moved to 802.1BR

Z.5 Support of Port Extension by Provider Bridges

During the joint session between DCB and Internetworking during the May, 2010 Interim meeting in Geneva, Switzerland, interest was expressed in supporting Port Extension on Provider Bridges. As currently specified, this is problematic since the S-TAG is used both by provider bridges and in Port Extension. There seems to be four options:

- 1) Do nothing. Port Extension is not supported on the provider interfaces of provider bridges.
- 2) Stack S-TAGs. This option was perceived to be quite unpopular
- 3) Create a new tag that is just like an S-TAG except with a new ethertype. This new tag would be used in place of the S-TAG in Port Extension. This also implies the creation of a new component much like the Port-mapping S-VLAN component except that it uses this new tag (or possibly its an option of the Port-mapping S-VLAN component.
- 4) Use M-TAGs for Port Extension. Extend the M-TAG to provide the S-TAG functionality in Port Extension. This could be done simply by adding a bit to the M-TAG to indicate that the M-TAG is carrying a unicast channel identifier rather than a multicast channel identifier.

Update for draft 0.4: During the July, 2010 Plenary meeting in San Diego, it appeared that consensus was growing that Port Extension should work with any bridge type. This may be accomplished by using a tag type different from the S-TAG. Additionally, it may be possible to combine the function of an S-TAG and an M-TAG into a single tag. There was some concern regarding the impact to this amendment to incorporate these changes. The editor believes these changes to be minor and will present a summary at the September, 2010 interim in York. Given that additional discussion is required on this topic, the editor made no effort to incorporate this into the current (0.4) draft.

The editor solicits commentary on these or other options.

Update for draft 0.5: The functionality of Port Extension has been extended to provider bridges. This was accomplished by eliminating the use of the S-TAG. The M-TAG was renamed to E-TAG and it is used for both unicast and remote replication.

Update for draft 1.0: The editor believes this issue is closed.

Update for draft 1.2: A comment was raised against draft 1.1 that there was insufficient description of how this works for provider bridges. Some additional explanation was added to the beginning of clause 45 that explains that Port Extension is transparent to the type of bridge.

Z.6 Determination of Upstream Port

This document currently states that if more than one Port on a Port Extender is capable of becoming the Upstream Port, the method by which Port becomes the Upstream Port is beyond the scope of the

specification. During the May, 2010 Interim and in response to comments, it is desired to make this in scope. Using a method similar to root bridge selection (i.e. use a MAC address, priority combination) was suggested. The editor agreed to put this into the specification. However, after additional reflection, this seems problematic. A bridge may change root bridges as it discovers new bridges. It seems undesirable to have a Port Extender change Upstream Ports, and therefore Controlling Bridges, as Ports are discovered. Thus, this method may not be appropriate.

The editor solicits additional thoughts on this issue.

Update for draft 0.5: A mechanism has been proposed to select the upstream Port based on the peer Ports' priority and MAC address as determined by EDP.

Update for draft 1.0: EDP was replaced with a LLDP TLV. The editor believes this issue is closed.

Update for draft 2.0: This functionality is now in 802.1BR

Z.7 Reserved bits in E-TAG

The E-TAG currently has 18 reserved bits. 16 of these is to keep the E-TAG a multiple of four octets which is strongly desired. There is concern that these reserved bits may result in issues in the future.

Update for draft 1.0: The consensus is consistently to keep the E-TAG a multiple of four octets. The editor believes this issue is closed.

Update for draft 2.0: This functionality has been moved to 802.1BR.

Z.8 Use of PBB TE as the foundation for Port Extension

During the May meeting in Santa Fe, Paul Borttorff, et. al., presented a proposal to utilize PBB TE as the basis for defining a Port Extender and to change the current tag scheme to a MAC-in-MAC scheme. The proposal was debated. Consensus was not achieved to include this proposal in the draft standard. Some detail relating to the changes required to the draft standard to implement this change may be found in ballot comment #943 of the draft 2.0 comment dispositions available here:

<http://www.ieee802.org/1/files/private/bh-drafts/d2/802-1bh-d2-0-pdis.pdf>

The proposal may be found here:

<http://www.ieee802.org/1/files/public/docs2011/bh-borttorff-PE-PBB-TE-0511-v3.pdf>

Additional supporting material may be found at the following links:

<http://www.ieee802.org/1/files/public/docs2011/bh-borttorff-cl05-0511-v2.pdf>

<http://www.ieee802.org/1/files/public/docs2011/bh-borttorff-cl06-0511-v1.pdf>

<http://www.ieee802.org/1/files/public/docs2011/bh-borttorff-cl3-0511-v1.pdf>

Z.9 Decomposition of LLDP MIB module

During the balloting of draft 2.0, it was suggested that the LLDP MIB module be decomposed into separate MIB modules much like is done for the bridge MIB modules. This idea is equally applicable to P802.1Qbg.

1 Therefore, no action was taken in this regard on draft 2.1. However, once this is done in P802.1Qbg, this
2 draft will be updated accordingly.
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