1. Introduction

This document proposes editing instructions to add the DCBX related TLVs to P802.1AB-REV/D4.0. These additions affect Annex E, Organizationally Specific TLVs. The clause numbers in this document correspond to the clauses to be edited in P8021AB-REV/D4.0.

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

Change the Note to read:

NOTE- These TLVs are intended to be used by IEEE 802.1 Bridges, end stations, or both, as indicated in Table E-1.

Change 3rd paragraph to read:

The IEEE 802.1 Organizationally Specific TLVs are divided into groups as indicated in Table E-1. If any 802.1 Organizationally Specific TLV within a group is supported, all 802.1 Organizationally Specific TLVs within that group shall be supported. All IEEE 802.1 Organizationally Specific TLVs shall conform to the LLDPDU bit and octet ordering conventions of 9.1.

Update Table E-1 As indicated below:

Table E-1— IEEE 802.1 Organizationally Specific TLVs

IEEE 802.1 subtype	TLV name	Reference	Group	Used by
01	Port VLAN ID	E.2	Base	Bridges
02	Port And Protocol VLAN ID	E.3	Base	Bridges
03	VLAN Name	E.4	Base	Bridges
04	Protocol Identity	E.5	Base	Bridges
05	VID Usage Digest	E.6	Base	Bridges
06	Management VID	E.7	Base	Bridges
07	Link Aggregation	E.8	Base	Bridges
08	Traffic Classes Supported	E.9	DCBX	Bridges & end stations
09	Priority Group	E.10	DCBX	Bridges & end stations
10	Priority-based Flow Control	E.11	DCBX	Bridges & end stations
11	Application Priority	E.12	DCBX	Bridges & end stations
12	Congestion Notification	E.13	DCBX	Bridges & end stations

E.9 Traffic Classes Supported

Insert this clause after the existing clause E.8 and renumber existing clauses E.9 onward appropriately.

The Traffic Classes TLV is an optional fixed length TLV that allows a bridge port or end station port to advertise the number of traffic classes it supports for transmission.

Figure E-8 shows the Traffic Classes Supported TLV:

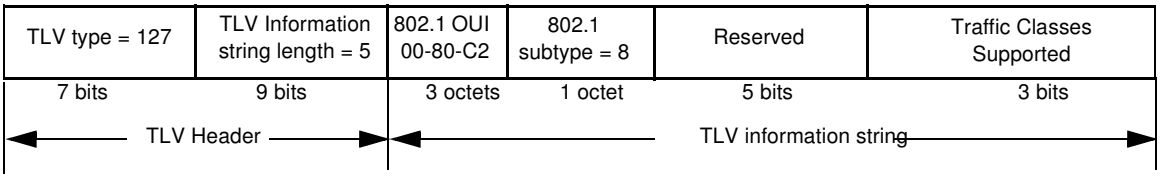

Figure E-8—Traffic Classes Supported TLV format

The value in the Traffic Classes Supported field indicates the number of traffic classes supported by the originating port. A zero in this field indicates the originating port supports eight traffic classes.

E.10 Priority Group TLV

Insert this clause after the new clause E.9 above and renumber the existing clauses appropriately.

The Priority Group TLV is an optional fixed length TLV that allows a bridge port or end station port to advertise a recommended priority group configuration and bandwidth allocation for traffic sent to it.

Figure E-9 shows the Priority Group TLV:

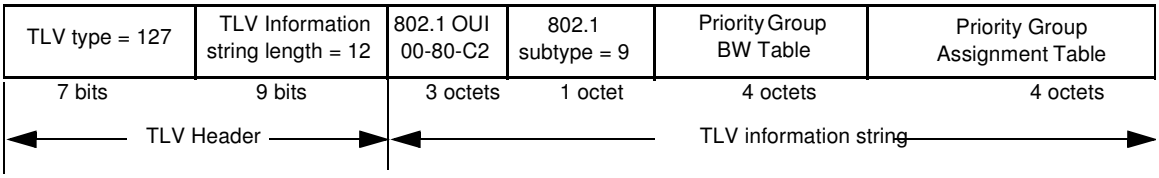

Figure E-9—Priority Group TLV format

The Priority Group BW Table provides a recommended bandwidth "weight" to be specified for each priority group. A weight of zero indicates that the port does not expect to receive data on the corresponding priority group. The recommended proportion of bandwidth allocated to individual priority group is the proportion of that group's weight divided by the total weight of all priority groups that have frames available for transmission.

Figure E-10 shows the format of the Priority Group BW Table:

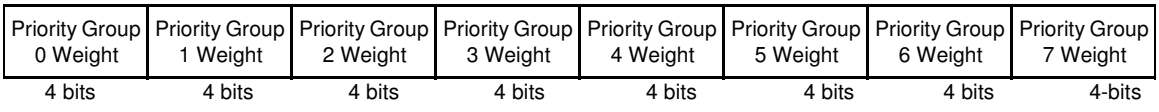

Figure E-10—Priority Group BW Table format

The Priority Group Assignment Table provides a recommended assignment of priorities to Priority Groups. A value greater than seven indicates the priority is not part of a priority group.

Figure E-11 shows the format of the Priority Group Assignment Table:

Pri. 0 Group Assignment	Pri.1 Group Assignment	Pri. 2 Group Assignment	Pri. 3 Group Assignment	Pri. 4 Group Assignment	Pri. 5 Group Assignment	Pri. 6 Group Assignment	Pri. 7 Group Assignment
4 bits	4 bits	4 bits	4 bits	4 bits	4 bits	4 bits	4-bits

Figure E-11—Priority Group Assignment Table

E.11 Priority-based Flow Control TLV

Insert this clause after the new clause E.10 above and renumber the existing clauses appropriately.

The Priority-based Flow Control TLV is an optional fixed length TLV that allows a bridge port or end station port to advertise for each priority whether or not Priority-based Flow Control is enabled.

Figure E-12 shows the format of the Priority-based Flow Control TLV:

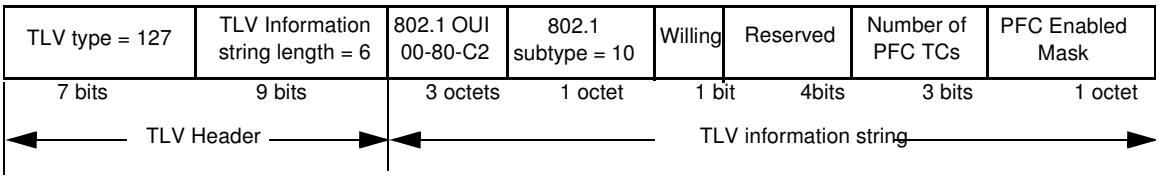

Figure E-12—Priority-based Flow Control TLV format

Each bit in the PFC Enabled Mask corresponds to one priority. The least significant bit refers to priority 0, and each increasing order bit corresponds to the next greater priority. A one in the bit position indicates that Priority-based Flow Control is enabled for the corresponding priority, a zero indicates that it is not.

The Number of PFC TCs field indicates the number of Traffic Classes that may simultaneously support Priority Flow Control. Setting this field to zero indicates that all available traffic classes may simultaneously support Priority Flow Control.

A one in the willing bit indicates that the port transmitting this TLV may update enable or disable priority flow control based on the contents of the Priority-based Flow Control TLV it receives from its peer. A port shall not enable or disable its Priority-based Flow Control based on the contents of this TLV received from its peer unless both of the following are true:

a) The port has set the Willing bit in its Priority-based Flow Control TLV to one.
b) The Willing bit in the received Priority-based Flow Control TLV is set to zero.

Note - the above restriction is required to prevent a endless cycle of each port updating its Priority-based Flow Control based on that of its peer.

E.12 Application Priority TLV

Insert this clause after the new clause E.11 above and renumber the existing clauses appropriately.

The Application Priority TLV is an optional fixed length TLV that allows a bridge port to advertise a recommended priority over which a particular protocol should operate. For an end station, this TLV advertises the priority over which a particular protocol is currently operating.

Figure E-13 shows the format of the Application Priority TLV:

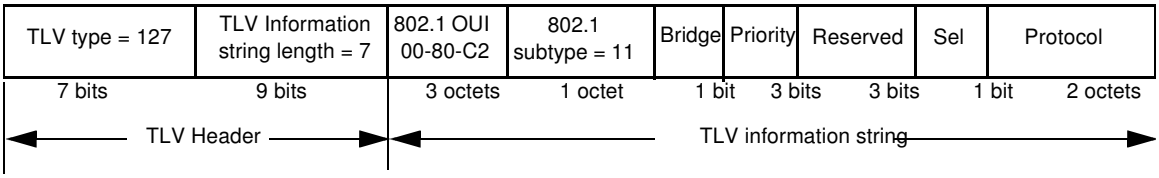

Figure E-13—Application Priority TLV format

If the device emitting this TLV is a bridge, then Bridge shall be set to one; otherwise, it shall be set to zero.

The protocol to which this TLV refers is indicated either by a Ethertype Value or a Port number. A list of Ethertypes may be obtained from the IEEE at http://standards.ieee.org/regauth/ethertype/eth.txt. A list of assigned port numbers may be obtained from IANA at www.iana.org/assignments/port-number. If Sel is set to one, the Protocol field shall contain a Port number. If Sel is set to zero, the Protocol field shall contain an Ethertype.

End stations may change the priorities used for individual protocol based on the receipt of these TLVs from bridges (i.e. the Bridge bit set to one). Bridges shall not change their protocol to priority assignments based on receipt of these TLVs. No device shall change their protocol to priority assignment based on receipt of these TLVs if the Bridge bit in the received TLV is set to zero.

Note - the above restrictions are required to prevent a endless cycle of each port updating its protocol to priority assignments based on that of its peer.

E.13 Congestion Notification TLV

Insert this clause after the new clause E.12 above and renumber the existing clauses appropriately.

The Congestion Notification TLV is an optional fixed length TLV that allows a bridge port or end station port to advertise which priorities are operating congestion notification and to control the defense of those priorities.

Figure E-14 shows the format of the Congestion Notification TLV:

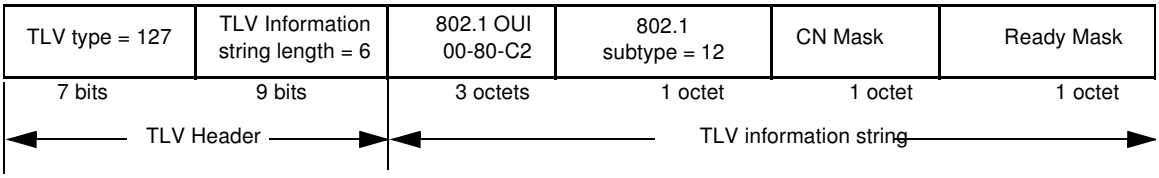

Figure E-14—Application Priority TLV format

The CN Mask field indicates on which priorities Congestion Notification is enabled. The least significant bit refers to priority 0, and each increasing order bit corresponds to the next greater priority. A one in the bit

position indicates that Congestion Notification is enabled for the corresponding priority; a zero indicates that it is not.

Devices that support Congestion Notification may implement defenses that block traffic on priorities that have congestion notification enabled or remap that traffic to other priorities until it is confirmed that the peer port also has Congestion Notification enabled for that priority. The Ready Mask indicates which priorities are ready to receive traffic with Congestion Notification disabled (i.e. the receive defenses are disabled). The least significant bit refers to priority 0, and each increasing order bit corresponds to the next greater priority. Bit positions in Ready Mask are reserved for which the corresponding bit in the CN Mask field are set to zero. Otherwise, a one in the bit position indicates that the port is ready to receive Congestion Notification enabled traffic; a zero indicates that it is not. See {802.1au} for a complete description of the use of these TLVs their normative controlling state machine.