Proposed changes to support VID Usage Digest TLV

(page 14 [32], line 24) Insert:
 b)   5) VID Usage Digest TLV;

(page 121 [139], line 38) Insert:
E.2.5 VID Usage Digest
The value of the VID Usage Digest associated with a system is obtained by applying the CRC32 (IEEE Std 802.3-2005, 4.2.10) to a VID Usage Table having a fixed length of 128 octets. A bit of the VID Usage Table contains the value PBB-TE-USAGE (binary 1) if the corresponding element of the MST Configuration Table (802.1Q 8.9.1) contains the value PBB-TE MSTID (hex FFE) and otherwise contains the value NON-PBB-TE-USAGE (binary 0). Differences in the value of the VID Usage Digest may be used to detect inconsistencies in the assignment of VID values to either PBB-TE usage or non-PBB-TE usage. Errors may occur when usage of a VID is inconsistent across its scope. Where VID usage has been provisioned throughout the LAN, the information carried in the VID Usage Digest TLV allows detection of a misconfiguration with high probability. Detection is not guaranteed due to the possibility of hash collisions.

(page 123 [141], line 33) Insert next-to-last row in table F-1:
    05   VID Usage Digest F.5

(page 123 [141], line 35) Modify last row in table F-1:
    06   06-FF   reserved   -

(page 126 [144], line 41) Insert subclause F.6 similar to subclause F.2 but describing the VID Usage Digest TLV instead of the Port VLAN ID TLV, and appropriately renumbering the current subclauses F.6 to F.8 and their subclauses:
F.6 VID Usage Digest TLV
The VID Usage Digest TLV is an optional TLV that allows an IEEE 802.1Q-compatible IEEE 802 LAN station to advertise the value of a VID Usage Digest associated with the system. The value of the VID Usage Digest is obtained by applying the CRC32 function (IEEE Std 802.3-2005, 4.2.10) to a VID Usage Table having a fixed length of 128 octets. A bit of the VID Usage Table contains the value PBB-TE-USAGE (binary 1) if the corresponding element of the MST Configuration Table (802.1Q 8.9.1) contains the value PBB-TE MSTID (hex FFE) and otherwise contains the value NON-PBB-TE-USAGE (binary 0).
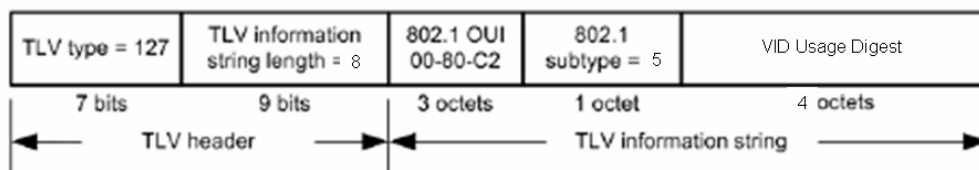Figure F-5 shows the VID Usage Digest TLV format.

Figure F-5 – VID Usage Digest TLV Format

F.6.1 VID Usage Digest
The VID Usage Digest field shall contain a VID Usage Digest value obtained by
applying the CRC32 function to the 128-octet VID Usage Table. A bit of the VID Usage
Table contains the value PBB-TE-USAGE (binary 1) if the corresponding element of the
MST Configuration Table (802.1Q 8.9.1) contains the value PBB-TE MSTID (hex FFE)
and otherwise contains the value NON-PBB-TE-USAGE (binary 0).

(page 127 [145], line 37) Insert
F.6.2.5 VID Usage Digest TLV managed objects
a) VID Usage Digest: The VID Usage Digest value (see F.6.2).

(page 128 [146], line 25) Update table F-4:
TLV Name: VID Usage Digest
TLV Variable: VID Usage Digest
LLDP local systems MIB object: lldpXdot1LocVidUsageDigest

(page 128 [146], line 49) Update table F-5:
TLV Name: VID Usage Digest
TLV Variable: VID Usage Digest
LLDP remote systems MIB object: lldpXdot1RemVidUsageDigest

(page 134 [152], line 39) Insert the following text:
```
--
-- lldpXdot1ConfigVidUsageDigestTable: configure the transmission of the
-- VID Usage Digest TLVs on set of ports.
--
lldpXdot1ConfigVidUsageDigestTable OBJECT-TYPE
SYNTAX SEQUENCE OF LldpXdot1ConfigVidUsageDigestEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"A table that controls selection of LLDP VID Usage Digest TLVs to be
transmitted on individual ports."
::= { lldpXdot1Config 5 }


lldpXdot1ConfigVidUsageDigestEntry OBJECT-TYPE
SYNTAX LldpXdot1ConfigVidUsageDigestEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"LLDP configuration information that specifies the set of ports (represented as
a PortList) on which the local system VID Usage Digest instance will be
transmitted.
This configuration object augments the lldpLocVidUsageDigestEntry, therefore it
is only present along with the VID Usage Digest instance contained in the
associated lldpLocVidUsageDigestEntry entry.
Each active lldpConfigVidUsageDigestEntry must be restored from non-volatile
storage and re-created (along with the corresponding lldpLocVidUsageDigestEntry)
after a re-initialization of the management system."

AUGMENTS { lldpXdot1LocVidUsageDigestEntry }
::= { lldpXdot1ConfigVidUsageDigestTable 1 }
LldpXdot1ConfigVidUsageDigestEntry ::= SEQUENCE {
lldpXdot1ConfigVidUsageDigestTxEnable TruthValue
}
```

```
lldpXdot1ConfigVidUsageDigestTxEnable OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"The boolean value that indicates whether the corresponding Local System VID
Usage Digest instance will be transmitted on the port defined by the given
lldpXdot1LocVidUsageDigestEntry.
The value of this object must be restored from non-volatile storage after a re-
initialization of the management system."
REFERENCE
"IEEE Std 802.1AB-2005 10.2.1.1"
DEFVAL { false }
::= { lldpXdot1ConfigVidUsageDigestEntry 1 }
```

(Page 138 [156], line 26) Insert the following text:

```
--
-- lldpXdot1LocVidUsageDigest: hash of system VID Usage Table transmitted
-- via VID Usage Digest TLV.
--
lldpXdot1LocVidUsageDigest OBJECT-TYPE
SYNTAX Integer32
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The integer value obtained by applying the CRC32 function to the 128-octet VID
Usage Table.  A bit of the VID Usage Table contains the value PBB-TE-USAGE
(binary 1) if the corresponding element of the MST Configuration Table (802.1Q
8.9.1) contains the value PBB-TE MSTID (hex FFE) and otherwise contains the
value NON-PBB-TE-USAGE (binary 0)."
REFERENCE
"IEEE Std 802.1AB-2005 F.6"
::= { lldpXdot1LocalData 4 }
```

(Page 142 [160], line 20) Insert the following:

```
--
-- lldpXdot1RemVidUsageDigest: hash of system VID Usage Table transmitted
-- via VID Usage Digest TLV.
--
lldpXdot1RemVidUsageDigest OBJECT-TYPE
SYNTAX Integer32
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The integer value obtained by applying the CRC32 algorithm to the 128-octet
VID Usage Table.  A bit of the VID Usage Table contains the value PBB-TE-USAGE
(binary 1) if the corresponding element of the MST Configuration Table (802.1Q
8.9.1) contains the value PBB-TE MSTID (hex FFE) and otherwise contains the
value NON-PBB-TE-USAGE (binary 0)."
REFERENCE
"IEEE Std 802.1AB-2005 F.6"
::= { lldpXdot1RemoteData 4 }
```

(page 146 [164], line 13) Add as last in list to item dot1xtlv in table F.8.3:
VID Usage Digest TLV; dot1xtlv:M; F.6, yes[]