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| IEEE 802.1 REVISION REQUEST 0014                                    |
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DATE: 11/7/2011
NAME: Paul Congdon, Pat Thaler
COMPANY/AFFILIATION: Hewlett-Packard, Broadcom
E-MAIL: paul.congdon@hp.com, pthaler@broadcom.com

REQUESTED REVISION:
     STANDARD: 802.1AB-2009
     CLAUSE NUMBER: 6.6.1, 9.2.7.7.2, 10.5.2
     CLAUSE TITLE: LLDPDU and TLV error handling

RATIONALE FOR REVISION:

The text for General validation rules for TLVs (9.2.7.7.2) isn't consistent with the text for LLDPDU and TLV error handling

(6.6.1) The latter implies that if an LLDPDU contains a detectable error then the entire PDU and its contents are discarded,

but 9.2.7.7.2 c) states that there are cases (and explicitly cites E.3.3) where it is acceptable to discard a single errored

TLV and process the rest of the PDU. There have been questions from implementers regarding what is intended.

Additionally, there are some inconsistent statements about how to handle the incrementing of statsFramesInErrorsTotal. The

description of statsFramesInErrorsTotal in 10.5.2 is: A count of all LLDPUPDUs received at the port with one or more detectable

errors 9.2.6.3).
Note: The standard is missing the opening parenthesis on the reference. 9.2.6.3 agrees with the definition in 10.5.2. Therefore

it should only increment once per frame. However, the TLV validation rules in 9.2.7.7.2 increment statsFramesInErrorsTotal

whenever they increment statsTLVsDiscardedTotal. They could increment it multiple times per frame.

PROPOSED REVISION TEXT:

Change 6.6.1 to say something like the following:

The LLDPDU is checked to ensure that it contains the correct sequence of mandatory TLVs and then each optional TLV is validated

in succession. LLDPDUs that contain detectable errors in the mandatory TLVs are discarded. Optional TLVs that contain

detectable errors are discarded (see 9.2.7.7.2 c)). TLVs that are not recognized, but that also contain no basic format

errors, are assumed to be valid and are stored for possible later retrieval by network management (see 9.2.7.7.1 and 9.2.7.4).

Change 9.2.7.7.2

Remove mention of statsFramesInErrorsTotal from a) through e) and add an additional rule at the end saying that

statsFramesInErrorsTotal is incremented at the end of processing if the LLDPDU or any of the TLVs in it were discarded.

Change 10.5.2

Add the missing opening parenthesis to item b) 3).

IMPACT ON EXISTING NETWORKS:

Potentially, fewer LLDPDUs will be discarded in their entirety and only incorrect TLVs will be missing. The MIB error

statistics may show fewer statsFramesInErrorsTotal. These differences are very unlikely as incorrectly formatted TLVs are

rare, so the overall impact is very minimal.

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|  Please attach supporting material, if any                            |
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|   and copy:- Paul Congdon, Vice-Chair IEEE 802.1                      |
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