802.1CBdb
How to spot untagged frames in EISS indications

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Background

• In case of a VLAN aware bridge, the EISS provides the `vlan_identifier` parameter in the `EM_UNITDATA.indication` primitive whether the frame was initially tagged or not:
  
  – `EM_UNITDATA.indication`

  ```
  (destination_address,
   source_address,
   mac_service_data_unit*,
   priority,
   drop_eligible,
   vlan_identifier,
   frame_check_sequence,
   service_access_point_identifier,
   connection_identifier,
   flow_hash,
   time_to_live)
  ```

  * If the frame is VLAN-tagged, the `mac_service_data_unit` is the `mac_service_data_unit` provided by the ISS, which VLAN-tag has been removed.
Background

- What 802.1Q says about the value of the `vlan_identifier` parameter passed by the `EM_UNITDATA.indication` primitive (Clause 6.9.1):

  - PVID tagging is mandatory, PVID ≠ 0, default value = 1 or 2
  - VID translation can translate the incoming VID into VID = 0
802.1CB introduces a managed object to determine if a frame includes a VLAN-tag:

– tsnCpeXxxYyyZzzTagged

“An enumerated value indicating whether a packet in an EISS indication primitive to the Xxx identification function is permitted to have a VLAN tag. It can take the following values:

1) **tagged**: A frame must have a VLAN tag to be recognized as belonging to the Stream.

2) **priority**: A frame must be untagged, or have a VLAN tag with a VLAN ID = 0 to be recognized as belonging to the Stream.

3) **all**: A frame is recognized as belonging to the Stream whether tagged or not.
PROPOSAL
Proposal

• So far Draft 0.0 re-uses the managed object defined in 802.1CB-2017 to determine if the VLAN-ID can be part of the stream identification.

• Do we need to keep it for mask-and-match?
  – Maybe not...
  – Instead, use a specific `vlan_identifier` match value to identify initially untagged or non-significantly tagged frames...
Proposal

• If Port and protocol based tagging is not used,
  – If \(vlan\textunderscore identifier\) \(\neq\) PVID, the frame was initially tagged, and:
    • \(vlan\textunderscore identifier\) can be used as an input for stream identification
  – If \(vlan\textunderscore identifier\) = PVID, the frame was initially untagged or priority-tagged, or priority-tagged after VID translation:
    • \(vlan\textunderscore identifier\) has no significant value, hence for stream identification

• Do we have to consider that the use of Port and protocol-based tagging is relevant when stream identification is implemented?
  – Tagging can be performed by output instances of Active Destination MAC and VLAN Stream identification functions, based on the stream_handle generated by any passive stream identification function.
  – ... then, no...
Thank you for your attention