802.1CBdb
draft 0.0

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CBDB OUTLINE

Changes in 802.1CB

- Clause 6 : addition of a new passive stream identification function
  - Clause 6.8
    - Chose a name: "mask-and-match"
    - Passive identification function that sits at the EISS' interface with the upper layers
    - Takes specific EISS's indication primitive parameters as input:
      - source_address, destination_address, vlan_identifier, mac_service_msdu
    - The function defines a set of bit fields, obtained by masking these input parameters
    - The *stream_handle* produced by the function is derived from the matching of the bit field(s) with values specific to an instance of the identification function.

Changes in 802.1CB

- Clause 5 "Conformance":
  - MmId optional in Talkers, Listeners
  - MmId recommended in Relay systems

- Clause 9 "Stream Identification Management"
  - Addition of a new *tsnStreamIdIdentificationType*
    - OUI: 00-80-C2, Type number: 5
  - Addition of managed objects (*tsnStreamIdParameters*) defining the masks sets and the values to be matched: Sub-clause 9.1.6
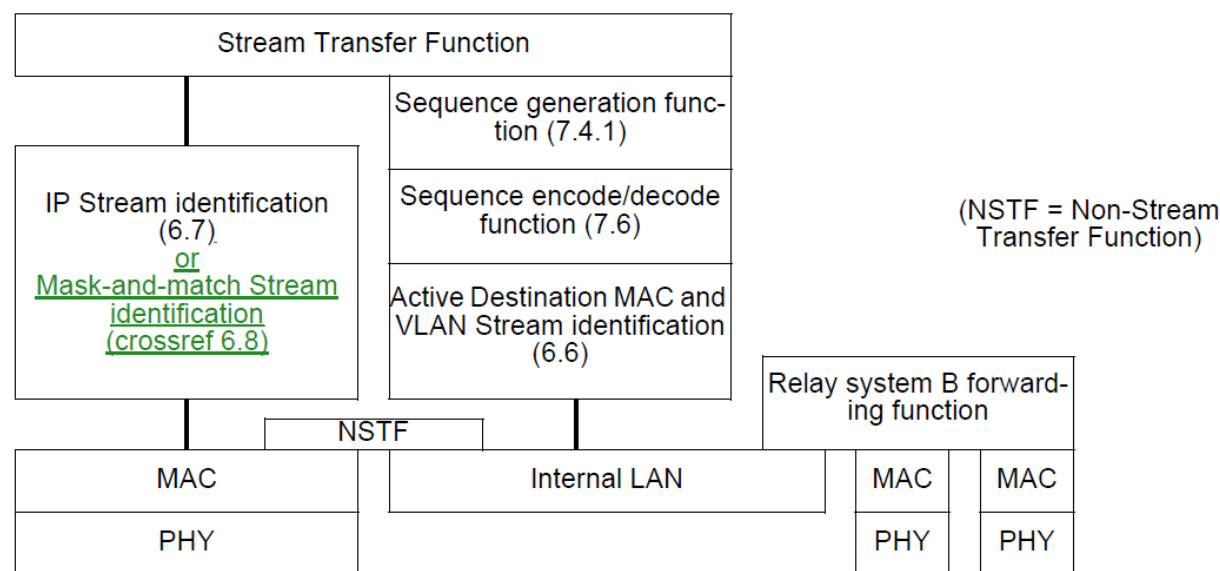   - See next slide

Changes in 802.1CB

- Clause 9.1.6 "Managed objects for Extended Stream identification"

Name	Description
tsnCpeMmIdDestMacMask (9.1.6.1)	48-bit ternary mask to be applied to the destination_address parameter passed up by the EM_UNITDATA.indication primitive
tsnCpeMmIdDestMacMatch (9.1.6.2)	Destination MAC address to be matched with the masked destination_address parameter
tsnCpeMmIdSrcMacMask (9.1.6.3)	48-bit ternary mask to be applied to the source_address parameter passed up by the EM_UNITDATA.indication primitive
tsnCpeMmIdSrcMacMatch (9.1.6.4)	Source MAC address to be matched with the masked source_address parameter
tsnCpeMmIdTagged (9.1.6.5)	Value indicating if the frame is tagged, untagged, or any
tsnCpeMmIdVlanIdMask (9.1.6.6)	12-bit ternary mask to be applied to the vlan_identifier parameter passed up by the EM_UNITDATA.indication primitive
tsnCpeMmIdVlanIdMatch (9.1.6.7)	VLAN identifier to be matched with the masked vlan_identifier parameter
tsnCpeMmIdMsduFieldNb (9.1.6.8)	Number of bit fields to be matched in the mac_service_data_unit parameter passed up by the EM_UNITDATA.indication primitive **-> max number ?**
tsnCpeMmIdMsduFieldN (9.1.6.9)	Bit field mask, defined by the couple **(tsnCpeMmIdMsduFieldOffsetN [9.1.6.9.1], tsnCpeMmIdMsduFieldLengthN [9.6.1.9.2])**, to be applied to the mac_service_data_unit parameter passed up by the EM_UNITDATA.indication primitive. **-> max values ?**
tsnCpeMmIdMsduFieldValueN (9.1.6.10)	tsnCpeMmIdMsduFieldLengthN-bit value to be matched with tsnCpeMmIdMsduFieldN

Changes in 802.1CB

- Annex A "PICS":
  - Reflects Clause 5

- Annex C.2 "Various stack positioning":
  - Example use of mask-and-match identification in a system

- Annex X "example applications":
  - To be added

M&M identification function

BACK-UP

EISS indication

- Mask & Match stream identification function as passive stream identification function on top of the EISS
  - implemented only up the stack
  - using a subset of the *EM_UNITDATA.indication* primitive parameters as input

(
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.

Masks sets

- Union of 2 sets of masks to determine the parameter information to be matched:

  - {da_mask, sa_mask, vlan_id_mask} U {msdu_mask}

  - {msdu_mask} = {(offset1, length1), (offset2, length2), …, (offsetN, lengthN)} or ∅

Tagged or untagged ?

- How to determine if a frame is tagged or untagged

  - Re-use the same "trick" as in the .1CB stream identification functions

    - Managed object that indicates that a frame is:

      - Tagged
      - Untagged
      - Any

Masks details

- ## msdu_mask details:

  - each (offset, length) couple defines a field of *length* bits that must match a *length*-bit value defined for the stream identification function instance

  - Number of (offset, length) couples is specified

    - If the number of couples equals 0, the msdu parameter is ignored

  - Unit of offset and length: bits

    - Max offset and length values have to be fixed

  - offset = 0 points to the first bit of the mac_service_data_unit

  - Length = number of consecutive bits

Masks details

- da_, sa_, vlan_id_ mask details
  - da_ and sa_ masks are 48-bit long
  - vlan_id_mask is 12-bit long
  - Masks allow "ternary" match:
    - Mask's bits set to '1' indicate a bit position that must match
    - Mask's bits set to '0' indicate a bit position that always match (don't care)
  - An all-zero mask indicates that the corresponding parameter is ignored

Thank you for your attention