IEEE P802.1CBcv
Stream identification-type and FRER sequence-recovery-algorithm

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Current implementation of the stream-identification YANG module models the \textit{tsnStreamIdIdentificationType} (9.1.1.6) incorrectly. IEEE Std 802.1CB-2017 describes \textit{tsnStreamIdIdentificationType} as “An enumerated value [that] includes an Organizationally Unique Identifier (OUI) or Company ID (CID) to identify the organization defining the enumerated type.”. The values for \textit{tsnStreamIdIdentificationType} are defined in Table 9-1 of the standard.

Currently the implementation in the stream-identification YANG module only contains the type number defined in Table 9-1 and omits the OUI/CID that also is defined in the table.

Additionally the current model does not allow to define custom stream identification functions for entities owning a different OUI/CID than “00-80-C2”.

The same applies to the modelling of \textit{frerSeqRcvyAlgorithm} (10.4.1.5) and \textit{frerSeqEncEncapsType} (10.5.1.5) in the FRER YANG module.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|}
\hline
OUI/CID & Type number & Stream identification function & Controlling parameters \\
\hline
00-80-C2 & 0 & Reserved & — \\
00-80-C2 & 1 & Null Stream identification (6.4) & 9.1.2 \\
00-80-C2 & 2 & Source MAC and VLAN Stream identification (6.5) & 9.1.3 \\
00-80-C2 & 3 & Active Destination MAC and VLAN Stream identification (6.6) & 9.1.4 \\
00-80-C2 & 4 & IP Stream identification (6.7) & 9.1.5 \\
00-80-C2 & 5–255 & Reserved & — \\
other & — & Defined by entity owning the OUI or CID & — \\
\hline
\end{tabular}
\caption{Table 9-1—Stream identification types}
\end{table}
The current way of modelling identification-type is incomplete (i.e. missing the OUI/CID information) and does not allow to define “other” stream identification functions than those defined in strid-idty.

Additionally, with the current way of modelling identification-type, the information in this leaf is redundant to the information in the following choice statement (see comment #4 against draft D0.4 of IEEE P802.1CBcv).
Suggested remedy

- Change the leaf identification-type to a container identification-type that contains a leaf for the type number and a leaf for the OUI/CID value from the table.

- Pull the container into the choice statement so there is one entry with the correct type number within each choice (e.g. null-stream-identification).

- Set the container identification-type to be config false to ensure that the correct type number and OUI/CID value of “00-80-C2” are returned for the respective stream identification functions defined in table 9-1.

- Create an additional container for the choice statement called organization-specific that is set to be config true and allows to set the type-number and OUI/CID to arbitrary values to allow to define “other” stream identification functions than those defined in table 9-1.

- An overview of how this would look is provided on the next slide.
Suggested remedy

Current model

module: ieee802-dot1cb-stream-identification
++-rw stream-identity-list* [index]
  +--rw index                                    uint32
  +--rw handle                                   uint32
  +--rw in-facing
    |  +--rw input-port-list*    if:interface-ref
    |  +--rw output-port-list*   if:interface-ref
  +--rw out-facing
    |  +--rw input-port-list*    if:interface-ref
    |  +--rw output-port-list*   if:interface-ref
  +--rw identification-type?                     identityref
    +--:(null-stream-identification)
      |  +--rw null-stream-identification
      |    |  +--rw destination-mac?   ieee:mac-address
      |    |  +--rw tagged?            vlan-tag-identification-type
      |    |  +--rw vlan?              vlan-identifier-type
      |    +--:(smac-vlan-stream-identification)
      |    |  +--...

Suggested model

module: ieee802-dot1cb-stream-identification
++-rw stream-identity-list* [index]
  +--rw index                                    uint32
  +--rw handle                                   uint32
  +--rw in-facing
    |  +--rw input-port-list*    if:interface-ref
    |  +--rw output-port-list*   if:interface-ref
  +--rw out-facing
    |  +--rw input-port-list*    if:interface-ref
    |  +--rw output-port-list*   if:interface-ref
  +--rw (parameters)
    +--:(null-stream-identification)
      |  +--ro identification-type
      |    |  +--ro type-number?   uint64
      |    |  +--ro oui-cid?       string
      |  +--rw destination-mac?   ieee:mac-address
      |  +--rw tagged?            vlan-tag-identification-type
      |  +--rw vlan?              vlan-identifier-type
      |  +--:(smac-vlan-stream-identification)
      |  |  +--...
      |  +--:(organization-specific)
      |    +--rw organizational
      |    |  +--rw identification-type
      |    |    |  +--rw type-number?   uint64
      |    |    |  +--rw oui-cid?       string
Thank you!

Any questions?