

YANG model for 802.3 MAC Merge Sublayer

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Context

MAC Merge sublayer (Clause 99 of 802.3) provides support for Frame Preemption as defined in 802.1Q.

- Currently there is no standard YANG model for it.
- (P802.1Qcw defines the YANG model just for Frame Preemption.)

This contribution includes a first version of the MAC Merge YANG model.

- The goal is to have it included in the revision of 802.3.2

NOTE: This work was originally developed by the engineering team in TTTech Industrial. The original contribution was modified to conform to the style used in IEEE802.

MAC Merge sublayer YANG model

```
augment /if:interfaces/if:interface/ieee802-eth-if:ethernet:
  +--rw mac-merge {mac-merge}?
    +--rw admin-control
      | +--rw merge-enable-tx?          enumeration
      | +--rw verify-disable-tx?       enumeration
      | +--rw verify-time?             uint16
      | +--rw frag-size?               uint16
    +--ro admin-status
      | +--ro merge-support?           enumeration
      | +--ro verify-status?           enumeration
      | +--ro status-tx?               enumeration
    +--ro statistics
      +--ro assembly-error-count?     yang:counter64
      +--ro smd-error-count?           yang:counter64
      +--ro assembly-ok-count?         yang:counter64
      +--ro fragment-count-rx?         yang:counter64
      +--ro fragment-count-tx?         yang:counter64
      +--ro hold-count?                yang:counter64
```

- Augments `ieee802-ethernet-interface`
- Contains managed objects defined in Clause 30.14 of 802.3

YANG FILE HERE → 

ieee802-dot1q-preemption[-bridge] YANG model (.1Qcw Cl. 48.6.19, Cl. 48.6.20)

```
augment /if:interfaces/if:interface/dot1q:bridge-port:
  +--rw frame-preemption-parameters {frame-preemption}?
    +--rw frame-preemption-status-table
      | +--rw priority0? frame-preemption-status-enum
      | +--rw priority1? frame-preemption-status-enum
      | +--rw priority2? frame-preemption-status-enum
      | +--rw priority3? frame-preemption-status-enum
      | +--rw priority4? frame-preemption-status-enum
      | +--rw priority5? frame-preemption-status-enum
      | +--rw priority6? frame-preemption-status-enum
      | +--rw priority7? frame-preemption-status-enum
    +--ro hold-advance? uint32
    +--ro release-advance? uint32
    +--ro preemption-active? boolean
    +--ro hold-request? enumeration
```

How P802.1Qcw is going to make use of and leverage the MAC Merge sublayer YANG model?

- References: Qcw Cl. 48.6.19 and Cl. 48.6.20
- Sets the read-only leaf `preemption-active` in `frame-preemption-parameters` {
 `preemption-active`
}
- **Uses** `mac-merge.admin-status.merge-support` **and** `mac-merge.admin-status.verify-status` **to set** `frame-preemption-parameters.preemption-active`