International Standard

ISO/IEC/IEEE 8802-1Q

Telecommunications and exchange between information technology systems — Requirements for local and metropolitan area networks —

Third edition 2024-08

AMENDMENT 36

Part 1Q:
Bridges and bridged networks

AMENDMENT 36: YANG Data Models for Scheduled Traffic, Frame Preemption, and Per-Stream Filtering and Policing

Télécommunications et échange entre systèmes informatiques — Exigences pour les réseaux locaux et métropolitains —

Partie 1Q: Ponts et réseaux pontés

AMENDEMENT 36

Foreword

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ISO/IEC/IEEE 8802-1Q:2024/Amd 36 was prepared by the LAN/MAN of the IEEE Computer Society (as IEEE 802.1Qcw-2023) and drafted in accordance with its editorial rules. It was adopted, under the "fast-track procedure" defined in the Partner Standards Development Organization cooperation agreement between ISO and IEEE, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

A list of all parts in the ISO/IEC/IEEE 8802 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Bridges and Bridged Networks

Amendment 36:
YANG Data Models for Scheduled Traffic, Frame Preemption, and Per-Stream Filtering and Policing

(This amendment is based on IEEE Std 802.1Q™-2022 as amended by IEEE Std 802.1Qcz-2023.)

NOTE—The editing instructions contained in this amendment define how to merge the material contained therein into the existing base standard and its amendments to form the comprehensive standard.

The editing instructions are shown in *__bold italics__*. Four editing instructions are used: change, delete, insert, and replace. *Change* is used to make corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed by using ~~strikethrough~~ (to remove old material) and <u>underscore</u> (to add new material). *Delete* removes existing material. *Insert* adds new material without disturbing the existing material. Deletions and insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. *Replace* is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one. Editing instructions, change markings, and this note will not be carried over into future editions because the changes will be incorporated into the base standard. [6]

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[6] Notes in text, tables, and figures are given for information only and do not contain requirements needed to implement the standard.

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1. Overview

1.3 Introduction

Insert new list item cs) after item cr) in 1.3 and renumber the subsequent list items accordingly:

cs) Define YANG configuration and operational state models (Clause 48) in support of scheduled traffic, frame preemption, and Per-Stream Filtering and Policing.

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12. Bridge management

12.29 Managed objects for scheduled traffic

12.29.1 The Gate Parameter Table

Insert two new rows at the end of Table 12-32 as follows (unchanged rows not shown):

Table 12-32—The Gate Parameter Table

Name	Data type	Operations supported[a]	Conformance[b]	References
SupportedCycleMax	RationalNumber (seconds)	R	B, E	8.6.8.4, 12.29.1.3, 12.29.1.6
SupportedIntervalMax	Integer	R	B, E	8.6.8.4, 12.29.1.7

[a] R= Read only access; RW = Read/Write access.
[b] B = Required for Bridge or Bridge component support of enhancements for scheduled traffic; E = Required for end station support of enhancements for scheduled traffic.

12.29.1.2 The gate control list structure and data types

12.29.1.2.1 GateControlEntry

Change 12.29.1.2.1 as follows:

A GateControlEntry consists of an operation name, followed by ~~up to~~ 2 parameters associated with the operation, as detailed in Table 8-7. The first parameter~~, if present,~~ is a gateStatesValue (12.29.1.2.2); the second parameter~~, if present,~~ is a timeIntervalValue (12.29.1.2.3).

Insert 12.29.1.6 and 12.29.1.7 after 12.29.1.5 as follows:

12.29.1.6 SupportedCycleMax

The maximum value supported by this Port of the AdminCycleTime (8.6.9.4.3) and OperCycleTime (8.6.9.4.19) parameters.

12.29.1.7 SupportedIntervalMax

The maximum value supported by this Port of the timeIntervalValue (12.29.1.2.3) parameter.

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12.31 Managed objects for per-stream classification and metering

12.31.1 The Stream Parameter Table

Insert two new rows at the end of Table 12-34 as follows (unchanged rows not shown):

Table 12-34—The Stream Parameter Table

Name	Data type	Operations supported[a]	Conformance[b]	References
SupportedCycleMax	RationalNumber (seconds)	R	PSFP, ATS	8.6.5.4, 12.29.1.3, 12.29.1.6
SupportedIntervalMax	Integer	R	PSFP, ATS	8.6.5.4, 12.29.1.7

[a] R= Read only access; RW = Read/Write access.
[b] PSFP = Required for Bridge, Bridge component, or end station support of PSFP.
   psfp = Optional for Bridge, Bridge component, or end station support of PSFP.
   ATS = Required for Bridge or Bridge component support of ATS.
   ats = Optional for Bridge or Bridge component support of ATS.
   CI = Required for Bridge or Bridge component support of CI.

Insert 12.31.1.7 and 12.31.1.8 after 12.31.1.6 as follows:

12.31.1.7 SupportedCycleMax

The maximum value supported by this Port of the AdminCycleTime (8.6.9.4.3) and OperCycleTime (8.6.9.4.19) parameters.

12.31.1.8 SupportedIntervalMax

The maximum value supported by this Bridge component of the timeIntervalValue (12.31.3.2.4) parameter.

12.31.3 The Stream Gate Instance Table

12.31.3.2 The gate control list structure and data types

12.31.3.2.2 StreamGateControlEntry

Change 12.31.3.2.2 as follows:

A StreamGateControlEntry consists of an operation name, followed by three mandatory parameters and one optional parameter associated with the operation, as detailed in Table 8-4. The first parameter is a StreamGateStatesValue (8.6.10.5, 12.31.3.2.1); the second parameter is an IPV value (8.6.10.7, 12.31.3.2.3), and; the third parameter is a timeIntervalValue (8.6.9.4.23, 12.31.3.2.4); and the fourth parameter is an IntervalOctetMaxValue (8.6.10.1, 12.31.3.2.5). IntervalOctetMaxValue is optional.

Insert 12.31.3.2.5 after 12.31.3.2.4 as follows:

12.31.3.2.5 IntervalOctetMaxValue

An unsigned integer, denoting an IntervalOctetMax in MSDU octets (see IntervalOctetMax in Table 8-4).

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17. Management Information Base (MIB)

17.2 Structure of the MIB

17.2.22 Structure of the IEEE8021-ST-MIB

Insert three new rows at the end of Table 17-28 as follows (unchanged rows not shown):

Table 17-28—IEEE8021-ST-MIB structure

IEEE8021-ST-MIB table/object	Reference
ieee8021STSupportedCycleMaxNumerator	SupportedCycleMax, 12.29.1.6
ieee8021STSupportedCycleMaxDenominator	SupportedCycleMax, 12.29.1.6
ieee8021STSupportedIntervalMax	SupportedIntervalMax, 12.29.1.7

17.2.24 Structure of the IEEE8021-PSFP-MIB

Insert three new rows at the end of Table 17-30 as follows (unchanged rows not shown):

Table 17-30—IEEE8021-PSFP-MIB structure

IEEE8021-PSFP-MIB table/object	Reference
ieee8021PSFPSupportedCycleMaxNumerator	SupportedCycleMax, 12.31.1.7
ieee8021PSFPSupportedCycleMaxDenominator	SupportedCycleMax, 12.31.1.7
ieee8021PSFPSupportedIntervalMax	SupportedIntervalMax, 12.31.1.8

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17.7 MIB modules[7] [8]

17.7.14 Definitions for the IEEE8021-SRP-MIB module

Change 17.7.14 as follows:

```
IEEE8021-SRP-MIB DEFINITIONS ::= BEGIN

-- ================================================================
-- MIB for support of IEEE 802.1Qat Stream Reservation Protocol
-- (SRP) in IEEE 802.1Q Bridges.
-- ================================================================

IMPORTS
    MODULE-IDENTITY,
    OBJECT-TYPE,
    Counter64,
    Unsigned32
        FROM SNMPv2-SMI
    MacAddress,
    TEXTUAL-CONVENTION,
    TruthValue
        FROM SNMPv2-TC
    MODULE-COMPLIANCE,
    OBJECT-GROUP
        FROM SNMPv2-CONF
    ieee802dot1mibs,
    IEEE8021PriorityCodePoint,
    IEEE8021VlanIndex
        FROM IEEE8021-TC-MIB
    IEEE8021FqtssTrafficClassValue
        FROM IEEE8021-FQTSS-MIB
    ieee8021BridgeBaseComponentId,
    ieee8021BridgeBaseEntry,
    ieee8021BridgeBasePort,
    ieee8021BridgeBasePortEntry
        FROM IEEE8021-BRIDGE-MIB

    ;

ieee8021SrpMib MODULE-IDENTITY
    LAST-UPDATED "202211080000Z" -- November 8, 2022"202309260000Z" -- September 26, 2023
    ORGANIZATION "IEEE 802.1 Working Group"
    CONTACT-INFO
        "  WG-URL: http://www.ieee802.org/1/
         WG-EMail: stds-802-1-l@ieee.org
          Contact: IEEE 802.1 Working Group Chair
           Postal: C/O IEEE 802.1 Working Group
                   IEEE Standards Association
                   445 Hoes Lane
                   Piscataway, NJ 08854
                   USA
            E-mail: stds-802-1-chairs@ieee.org"
    DESCRIPTION
        "The Bridge MIB module for managing devices that support
        the IEEE Std 802.1Q Stream Reservation Protocol.

        Unless otherwise indicated, the references in this MIB
        module are to IEEE Std 802.1Q-2022.

        Copyright (C) IEEE (20222023).
        This version of this MIB module is part of IEEE Std 802.1Q;
        see that standard for full legal notices."
```

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[7]*Copyright release for MIBs:* Users of this standard may freely reproduce the MIB modules in this standard so that they can be used for their intended purpose.

[8]An ASCII version of this MIB module is attached to the PDF version of this standard, and can be obtained by Web browser from the IEEE 802.1 Website at https://1.ieee802.org/mib-modules/.

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```
    REVISION "202309260000Z" -- September 26, 2023
    DESCRIPTION
            "Published as part of IEEE 802.1Qcw.
            Changed the applicable SYNTAX of object definitions
             ieee8021SrpStreamDataFramePriority, and
             ieee8021SrpStreamPreloadDataFramePriority
            from IEEE8021PriorityCodePoint to INTEGER
            to correct an error identifying PCP encoding SYNTAX
            instead of PCP values as intended."

    REVISION "202211080000Z" -- November 8, 2022
    DESCRIPTION
            "Published as part of IEEE Std 802.1Q-2022.
            Cross references and contact information updated."

    REVISION "201810040000Z" -- October 4, 2018
    DESCRIPTION
            "Published as part of IEEE 802.1Qcc-2018.
                     Added managed objects for Stream Reservation
                     Protocol (SRP) Enhancements and Performance
                     Improvements"

    REVISION "201806280000Z" -- June 28, 2018
    DESCRIPTION
            "Published as part of IEEE Std 802.1Q 2018.
            Cross references updated. "

    REVISION "201512020000Z" -- December 2, 2015
    DESCRIPTION
            "Published as part of IEEE Std 802.1Q-2014 Cor-1.
            ieee8021SrpReservationFailureBridgeId changed to
            ieee8021SrpReservationFailureSystemId."

    REVISION "201412150000Z" -- December 15, 2014
    DESCRIPTION
            "Published as part of IEEE Std 802.1Q 2014 revision.
            Cross references updated and corrected."

    REVISION     "201102270000Z" -- February 27, 2011
    DESCRIPTION
        "Minor edits to contact information etc. as part of
         2011 revision of Std 802.1Q."

    REVISION     "201004190000Z" -- April 19, 2010
    DESCRIPTION
        "Initial revision, included in IEEE 802.1Qat"
    ::= { ieee802dot1mibs 19 }

-- ==========================================================
-- Textual Conventions
-- ==========================================================

IEEE8021SrpStreamRankValue ::= TEXTUAL-CONVENTION
    STATUS       current
    DESCRIPTION
        "An 802.1 SRP Stream Rank value. This is an integer,
        with the following interpretation placed on the value:

        0: Emergency, high-rank stream,
        1: Non-emergency stream."
    REFERENCE    "35.2.2.8.5b"
    SYNTAX       INTEGER {
                    emergency(0),
                    nonEmergency(1)
                }


IEEE8021SrpStreamIdValue ::= TEXTUAL-CONVENTION
    DISPLAY-HINT "1x:1x:1x:1x:1x:1x.1x:1x"
    STATUS       current
    DESCRIPTION
```

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```
                    "Represents an SRP Stream ID, which is often defined
                     as a MAC Address followed by a unique 16-bit ID."
        SYNTAX       OCTET STRING (SIZE (8))

IEEE8021SrpReservationDirectionValue ::= TEXTUAL-CONVENTION
        STATUS        current
        DESCRIPTION
            "An 802.1 SRP Stream Reservation Direction value. This is
             an integer, with the following interpretation placed on
             the value:

             0: Talker registrations,
             1: Listener registrations."
        REFERENCE    "35.2.1.2"
        SYNTAX        INTEGER {
                         talkerRegistrations(0),
                         listenerRegistrations(1)
                      }


IEEE8021SrpReservationDeclarationTypeValue ::= TEXTUAL-CONVENTION
        STATUS        current
        DESCRIPTION
            "An 802.1 SRP Stream Reservation Declaration Type value.
             This is an integer, with the following interpretation
             placed on the value:

             0: Talker Advertise,
             1: Talker Failed,
             2: Listener Asking Failed,
             3: Listener Ready,
             4: Listener Ready Failed."
        REFERENCE    "35.2.1.3"
        SYNTAX        INTEGER {
                         talkerAdvertise(0),
                         talkerFailed(1),
                         listenerAskingFailed(2),
                         listenerReady(3),
                         listenerReadyFailed(4)
                      }


IEEE8021SrpReservationFailureCodeValue ::= TEXTUAL-CONVENTION
        STATUS        current
        DESCRIPTION
            "An 802.1 SRP Stream Reservation Failure Code value.
             This is an integer, with the following interpretation
             placed on the value:

             0: No failure,
             1: Insufficient bandwidth,
             2: Insufficient Bridge resources,
             3: Insufficient bandwidth for Traffic Class,
             4: StreamID in use by another Talker,
             5: Stream destination address already in use,
             6: Stream pre-empted by higher rank,
             7: Reported latency has changed,
             8: Egress port is not AVBCapable,
             9: Use a different destination_address,
             10: Out of MSRP resources,
             11: Out of MMRP resources,
             12: Cannot store destination_address,
             13: Requested priority is not an SR Class priority,
             14: MaxFrameSize is too large for media,
             15: maxFanInPorts limit has been reached,
             16: Changes in FirstValue for a registered StreamID,
             17: VLAN is blocked on this egress port (Registration Forbidden),
             18: VLAN tagging is disabled on this egress port (untagged set),
             19: SR class priority mismatch."
        REFERENCE    "35.2.2.8.7"
        SYNTAX        INTEGER {
                         noFailure(0),
```

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```
                           insufficientBandwidth(1),
                           insufficientResources(2),
                           insufficientTrafficClassBandwidth(3),
                           streamIDInUse(4),
                           streamDestinationAddressInUse(5),
                           streamPreemptedByHigherRank(6),
                           latencyHasChanged(7),
                           egressPortNotAVBCapable(8),
                           useDifferentDestinationAddress(9),
                           outOfMSRPResources(10),
                           outOfMMRPResources(11),
                           cannotStoreDestinationAddress(12),
                           priorityIsNoAnSRCLass(13),
                           maxFrameSizeTooLarge(14),
                           maxFanInPortsLimitReached(15),
                           firstValueChangedForStreamID(16),
                           vlanBlockedOnEgress(17),
                           vlanTaggingDisabledOnEgress(18),
                           srClassPriorityMismatch(19)
                       }


-- ================================================================
-- subtrees in the SRP MIB
-- ================================================================

ieee8021SrpNotifications
    OBJECT IDENTIFIER ::= { ieee8021SrpMib 0 }

ieee8021SrpObjects
    OBJECT IDENTIFIER ::= { ieee8021SrpMib 1 }

ieee8021SrpConformance
    OBJECT IDENTIFIER ::= { ieee8021SrpMib 2 }

ieee8021SrpConfiguration
    OBJECT IDENTIFIER ::= { ieee8021SrpObjects 1 }

ieee8021SrpLatency
    OBJECT IDENTIFIER ::= { ieee8021SrpObjects 2 }

ieee8021SrpStreams
    OBJECT IDENTIFIER ::= { ieee8021SrpObjects 3 }

ieee8021SrpReservations
    OBJECT IDENTIFIER ::= { ieee8021SrpObjects 4 }


-- ================================================================
-- The ieee8021SrpConfiguration subtree
-- This subtree defines the objects necessary for the
-- operational management of SRP.
-- ================================================================

ieee8021SrpBridgeBaseTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021SrpBridgeBaseEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table for SRP main control and status information.
        All writable objects in this table must be persistent
        over power up restart/reboot.  These objects augment
        the ieee8021BridgeBasePortTable."
    ::= { ieee8021SrpConfiguration 1 }

ieee8021SrpBridgeBaseEntry OBJECT-TYPE
    SYNTAX      Ieee8021SrpBridgeBaseEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "SRP control and status information for a Bridge."
    AUGMENTS { ieee8021BridgeBaseEntry }
```

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```
    ::= { ieee8021SrpBridgeBaseTable 1 }

Ieee8021SrpBridgeBaseEntry ::=
    SEQUENCE {
        ieee8021SrpBridgeBaseMsrpEnabledStatus
            TruthValue,
        ieee8021SrpBridgeBaseMsrpTalkerPruning
            TruthValue,
        ieee8021SrpBridgeBaseMsrpMaxFanInPorts
            Unsigned32,
        ieee8021SrpBridgeBaseMsrpLatencyMaxFrameSize
            Unsigned32,
        ieee8021SrpBridgeBaseMsrpTalkerVlanPruning
            TruthValue,
        ieee8021SrpBridgeBaseMsrpMaxSRClasses
            Unsigned32
    }

ieee8021SrpBridgeBaseMsrpEnabledStatus OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The administrative status requested by management for
        MSRP.  The value true(1) indicates that MSRP should
        be enabled on this device, in all VLANs, on all ports
        for which it has not been specifically disabled.  When
        false(2), MSRP is disabled, in all VLANs and on all
        ports, and all MSRP frames will be forwarded
        transparently.  This objects affects both Applicant and
        Registrar state machines.  A transition from false(2)
        to true(1) will cause a reset of all MSRP state
        machines on all ports.

        This object may be modified while the corresponding
        instance of ieee8021BridgeBaseRowStatus is active(1).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "35.2.1.4d"
    DEFVAL      { true }
    ::= { ieee8021SrpBridgeBaseEntry 1 }

ieee8021SrpBridgeBaseMsrpTalkerPruning OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The value of the talkerPruning parameter, which
        controls the propagation of Talker declarations.
        The value true(1) indicates that Talker attributes
        are only declared on ports that have the Stream
        destination_address registered in the MMRP MAC
        Address Registration Entries.  When false(2),
        Talker attribute are declared on all egress ports
        in the active topology.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "12.22.1, 35.2.1.4b, 35.2.4.3.1"
    DEFVAL      { false }
    ::= { ieee8021SrpBridgeBaseEntry 2 }

ieee8021SrpBridgeBaseMsrpMaxFanInPorts OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The value of the msrpMaxFanInPorts parameter, which
        limits the total number of ports on a Bridge that
        are allowed to establish reservations for inbound
        Streams.  A value of zero (0) indicates no fan-in
```

```
                limit is being specified and calculations involving
                fan-in will only be limited by the number of MSRP
                enabled ports.

                The value of this object MUST be retained across
                reinitializations of the management system."
        REFERENCE   "12.22.1, 35.2.1.4f"
        DEFVAL      { 0 }
        ::= { ieee8021SrpBridgeBaseEntry 3 }

    ieee8021SrpBridgeBaseMsrpLatencyMaxFrameSize OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
                "The value of msrpLatencyMaxFrameSize parameter
                which is used in the calculation of the maximum
                latency through a Bridge.  The maximum size is
                defined to be 2000 octets by default, but may be
                set to a smaller or larger value dependent on the
                particular Bridge configuration. This parameter
                does not imply any type of policing of frame size,
                it is only used in the latency calculations.

                The value of this object MUST be retained across
                reinitializations of the management system."
        REFERENCE   "12.22.1, 35.2.1.4g"
        DEFVAL      { 2000 }
        ::= { ieee8021SrpBridgeBaseEntry 4 }

    ieee8021SrpBridgeBaseMsrpTalkerVlanPruning OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
                "This parameter allows to limit the Talker declaration
                to ports, that have the Stream's VLAN identifier
                registered as a member in the VLAN Registration
                Entries. The value true(1) indicates that Talker
                declarations are only sent out on ports, that have the
                Stream's VLAN identifier registered as a member in the
                VLAN Registration Entries. When false(2), Talker
                declarations are propagated according to the VLAN
                spanning tree."
        REFERENCE   "12.22.1, 35.2.1.4l"
        DEFVAL      { false }
        ::= { ieee8021SrpBridgeBaseEntry 5 }

    ieee8021SrpBridgeBaseMsrpMaxSRClasses OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "This attribute provides the maximum number of SR classes
                supported by the Bridge."
        REFERENCE   "12.22.1, 35.2.1.4m"
        ::= { ieee8021SrpBridgeBaseEntry 6 }

    ieee8021SrpBridgePortTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Ieee8021SrpBridgePortEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
                "A table for SRP control and status information about
                every Bridge Port.  Augments the ieee8021BridgeBasePortTable."
        ::= { ieee8021SrpConfiguration 2 }

    ieee8021SrpBridgePortEntry OBJECT-TYPE
        SYNTAX      Ieee8021SrpBridgePortEntry
        MAX-ACCESS  not-accessible
        STATUS      current
```

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```
    DESCRIPTION
        "SRP control and status information for a Bridge Port."
    AUGMENTS { ieee8021BridgeBasePortEntry }
    ::= { ieee8021SrpBridgePortTable 1 }

Ieee8021SrpBridgePortEntry ::=
    SEQUENCE {
        ieee8021SrpBridgePortMsrpEnabledStatus
            TruthValue,
        ieee8021SrpBridgePortMsrpFailedRegistrations
            Counter64,
        ieee8021SrpBridgePortMsrpLastPduOrigin
            MacAddress,
        ieee8021SrpBridgePortSrPvid
            IEEE8021VlanIndex,
        ieee8021SrpBridgePortMsrpTalkerPrunningPerPort
        TruthValue
    }

ieee8021SrpBridgePortMsrpEnabledStatus OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The administrative state of MSRP operation on this port.  The
        value true(1) indicates that MSRP is enabled on this port
        in all VLANs as long as ieee8021BridgeMsrpEnabledStatus is
        also true(1).  A value of false(2) indicates that MSRP is
        disabled on this port in all VLANs: any MSRP frames received
        will be silently discarded, and no MSRP registrations will be
        propagated from other ports.  Setting this to a value of
        true(1) will be stored by the agent but will only take
        effect on the MSRP protocol operation if
        ieee8021BridgeMsrpEnabledStatus
        also indicates the value true(1).  This object affects
        all MSRP Applicant and Registrar state machines on this
        port.  A transition from false(2) to true(1) will
        cause a reset of all MSRP state machines on this port.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "35.2.1.4e"
    DEFVAL      { true }
    ::= { ieee8021SrpBridgePortEntry 1 }

ieee8021SrpBridgePortMsrpFailedRegistrations OBJECT-TYPE
    SYNTAX      Counter64
    UNITS       "failed MSRP registrations"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The total number of failed MSRP registrations, for any
        reason, in all VLANs, on this port.

        Discontinuities in the value of the counter can occur at
        re-initialization of the management system, and at other
        times as indicated by the value of ifCounterDiscontinuityTime
        object of the associated interface (if any)."
    REFERENCE   "10.7.12.1"
    ::= { ieee8021SrpBridgePortEntry 2 }

ieee8021SrpBridgePortMsrpLastPduOrigin OBJECT-TYPE
    SYNTAX      MacAddress
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The Source MAC Address of the last MSRP message
        received on this port."
    REFERENCE   "10.7.12.2"
    ::= { ieee8021SrpBridgePortEntry 3 }

ieee8021SrpBridgePortSrPvid OBJECT-TYPE
```

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```
    SYNTAX      IEEE8021VlanIndex
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The default VLAN ID that Streams are assigned to.
        Talkers learn this VID from the SRP Domain attribute
        and tag Streams accordingly.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "35.2.2.8.3b"
    DEFVAL      { 2 }
    ::= { ieee8021SrpBridgePortEntry 4}

ieee8021SrpBridgePortMsrpTalkerPrunningPerPort OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "This parameter controls the forwarding behavior for
        Talker declarations on the port when the TalkerPruning
        parameter is disabled for the bridge. The value true(1)
        indicates, that Talker declarations are only forwarded
        on that port, if the destination_address of the Stream
        is found in the MAC Address Registration Entries for the
        port. When false(2), Talker declarations are forwarded
        on that port regardless of the destination address."
    REFERENCE   "12.22.2, 35.2.1.4k"
    DEFVAL      { false }
    ::= { ieee8021SrpBridgePortEntry 5 }


-- ==========================================================
-- The ieee8021SrpLatency subtree
-- This subtree defines the objects necessary for retrieving
-- the latency of the various traffic classes on a port.
-- ==========================================================


-- ==========================================================
-- the ieee8021SrpLatencyTable
-- ==========================================================
ieee8021SrpLatencyTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021SrpLatencyEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table containing a set of latency measurement
        parameters for each traffic class."
    REFERENCE   "35.2.2.8.6"
    ::= { ieee8021SrpLatency 1 }

ieee8021SrpLatencyEntry OBJECT-TYPE
    SYNTAX      Ieee8021SrpLatencyEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects containing latency information
        for each traffic class. Rows in the table are
        automatically created for ports that are not an
        SRP domain boundary port (i.e., SRPdomainBoundaryPort
        is FALSE). See 35.1.4, 8.8.2, 12.22.3."
    INDEX   { ieee8021BridgeBaseComponentId,
              ieee8021BridgeBasePort,
              ieee8021SrpTrafficClass  }
    ::= { ieee8021SrpLatencyTable 1 }

Ieee8021SrpLatencyEntry ::=
    SEQUENCE {
        ieee8021SrpTrafficClass
            IEEE8021FqtssTrafficClassValue,
        ieee8021SrpPortTcLatency
            Unsigned32
        }
```

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```
ieee8021SrpTrafficClass OBJECT-TYPE
    SYNTAX      IEEE8021FqtssTrafficClassValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The traffic class number associated with the
        row of the table.

        Rows in the table are automatically created for
        ports that are not an SRP domain boundary port
        (i.e., SRPdomainBoundaryPort is FALSE)."
    REFERENCE   "35.1.4, 8.8.2, 12.22.3"
    ::= { ieee8021SrpLatencyEntry 1 }


ieee8021SrpPortTcLatency OBJECT-TYPE
    SYNTAX      Unsigned32
    UNITS       "nano-seconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value of the portTcMaxLatency parameter for the
        traffic class.  This value is expressed in
        nano-seconds."
    REFERENCE   "35.2.1.4, 35.2.2.8.6"
    ::= { ieee8021SrpLatencyEntry 2 }


-- ============================================================
-- The ieee8021SrpStreams subtree
-- This subtree defines the objects necessary for retrieving
-- the characteristics of the various Streams currently registered.
-- ============================================================


-- ============================================================
-- the ieee8021SrpStreamTable
-- ============================================================
ieee8021SrpStreamTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021SrpStreamEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table containing a set of characteristics
        for each registered Stream."
    REFERENCE   "35.2.2.8"
    ::= { ieee8021SrpStreams 1 }

ieee8021SrpStreamEntry OBJECT-TYPE
    SYNTAX      Ieee8021SrpStreamEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects containing characteristics
        for each registered Stream. Rows in the table are
        automatically created for Streams registered on any
        port of a Bridge."
    INDEX  { ieee8021SrpStreamId }
    ::= { ieee8021SrpStreamTable 1 }

Ieee8021SrpStreamEntry ::=
    SEQUENCE {
        ieee8021SrpStreamId
            IEEE8021SrpStreamIdValue,
        ieee8021SrpStreamDestinationAddress
            MacAddress,
        ieee8021SrpStreamVlanId
            IEEE8021VlanIndex,
        ieee8021SrpStreamTspecMaxFrameSize
            Unsigned32,
        ieee8021SrpStreamTspecMaxIntervalFrames
            Unsigned32,
```

```
        ieee8021SrpStreamDataFramePriority
            INTEGER IEEE8021PriorityCodePoint,
        ieee8021SrpStreamRank
            IEEE8021SrpStreamRankValue
        }

ieee8021SrpStreamId OBJECT-TYPE
    SYNTAX      IEEE8021SrpStreamIdValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The Stream ID associated with the row of the table.

        Rows in the table are automatically created when
        Streams are registered via MSRP."
    REFERENCE   "35.2.2.8.2"
    ::= { ieee8021SrpStreamEntry 1 }

ieee8021SrpStreamDestinationAddress OBJECT-TYPE
    SYNTAX      MacAddress
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The MAC destination address for the Stream described
        by this reservation."
    REFERENCE   "35.2.2.8.3a"
    ::= { ieee8021SrpStreamEntry 2}

ieee8021SrpStreamVlanId OBJECT-TYPE
    SYNTAX      IEEE8021VlanIndex
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The VLAN ID associated with the MSRP registration
        for this Stream."
    REFERENCE   "35.2.2.8.3b"
    ::= { ieee8021SrpStreamEntry 3}

ieee8021SrpStreamTspecMaxFrameSize OBJECT-TYPE
    SYNTAX      Unsigned32 (0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The maximum size frame that will be sent by
        a Talker for this Stream. This value is part
        of the Traffic Specification for the Stream."
    REFERENCE   "35.2.2.8.4a"
    ::= { ieee8021SrpStreamEntry 4}

ieee8021SrpStreamTspecMaxIntervalFrames OBJECT-TYPE
    SYNTAX      Unsigned32 (0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The maximum number of frame that will be sent
        during a class measurement interval (L.2).  This
        value is part of the Traffic Specification for
        the Stream."
    REFERENCE   "35.2.2.8.4b, L.2"
    ::= { ieee8021SrpStreamEntry 5}

ieee8021SrpStreamDataFramePriority OBJECT-TYPE
    SYNTAX      INTEGER (0..7) IEEE8021PriorityCodePoint
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The Priority Code Point (PCP) value that the
        referenced Stream will be tagged with. This value
        is used to distinguish Class A and Class B traffic."
    REFERENCE   "35.2.2.8.5a"
    ::= { ieee8021SrpStreamEntry 6}
```

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```
ieee8021SrpStreamRank OBJECT-TYPE
    SYNTAX      IEEE8021SrpStreamRankValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "SRP supports emergency and non-emergency.
        Emergency traffic will interrupt non-emergency
        traffic if there is insufficient bandwidth or
        resources available for the emergency traffic."
    REFERENCE   "35.2.2.8.5b"
    ::= { ieee8021SrpStreamEntry 7}


    -- ==============================================================
    -- the ieee8021SrpStreamPreloadTable
    -- ==============================================================
ieee8021SrpStreamPreloadTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021SrpStreamPreloadEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table containing a set of parameters for each StreamID
        that is preloaded on the Bridge as it initializes."
    REFERENCE   "12.22.6"
    ::= { ieee8021SrpStreams 2 }

ieee8021SrpStreamPreloadEntry OBJECT-TYPE
    SYNTAX      Ieee8021SrpStreamPreloadEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects containing characteristics
        for each registered Stream. Rows in the table are
        automatically created for Streams registered on any
        port of a Bridge."
    INDEX  { ieee8021SrpStreamPreloadId }
    ::= { ieee8021SrpStreamPreloadTable 1}

Ieee8021SrpStreamPreloadEntry ::=
    SEQUENCE {
        ieee8021SrpStreamPreloadId
            IEEE8021SrpStreamIdValue,
        ieee8021SrpStreamPreloadDestinationAddress
            MacAddress,
        ieee8021SrpStreamPreloadVlanId
            IEEE8021VlanIndex,
        ieee8021SrpStreamPreloadTspecMaxFrameSize
            Unsigned32,
        ieee8021SrpStreamPreloadTspecMaxIntervalFrames
            Unsigned32,
        ieee8021SrpStreamPreloadDataFramePriority
            INTEGER IEEE8021PriorityCodePoint,
        ieee8021SrpStreamPreloadRank
            IEEE8021SrpStreamRankValue
        }

ieee8021SrpStreamPreloadId OBJECT-TYPE
    SYNTAX      IEEE8021SrpStreamIdValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The 64-bit StreamID is used to match Talker
        registrations with their corresponding Listener
        registrations(35.2.4)."
    REFERENCE   "12.22.6, 35.2.2.8.2"
    ::= { ieee8021SrpStreamPreloadEntry 1 }

ieee8021SrpStreamPreloadDestinationAddress OBJECT-TYPE
    SYNTAX      MacAddress
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
```

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```
            "The MAC destination address for the Stream described
            by this reservation."
        REFERENCE    "12.22.6, 35.2.2.8.3a"
        ::= { ieee8021SrpStreamPreloadEntry 2}

    ieee8021SrpStreamPreloadVlanId OBJECT-TYPE
        SYNTAX      IEEE8021VlanIndex
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The VLAN ID associated with the MSRP registration
            for this Stream."
        REFERENCE    "12.22.6, 35.2.2.8.3b"
        ::= { ieee8021SrpStreamPreloadEntry 3}

    ieee8021SrpStreamPreloadTspecMaxFrameSize OBJECT-TYPE
        SYNTAX      Unsigned32 (0..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The maximum size frame that will be sent by
            a Talker for this Stream. This value is part
            of the Traffic Specification for the Stream."
        REFERENCE    "12.22.6, 35.2.2.8.4a"
        ::= { ieee8021SrpStreamPreloadEntry 4}

    ieee8021SrpStreamPreloadTspecMaxIntervalFrames OBJECT-TYPE
        SYNTAX      Unsigned32 (0..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The maximum number of frames that the Talker may
            transmit in one classMeasurementInterval (34.3).
            This value is part of the Traffic Specification
            for the Stream."
        REFERENCE    "12.22.6, 35.2.2.8.4b"
        ::= { ieee8021SrpStreamPreloadEntry 5}

    ieee8021SrpStreamPreloadDataFramePriority OBJECT-TYPE
        SYNTAX      INTEGER (0..7)IEEE8021PriorityCodePoint
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The Priority Code Point (PCP) value that the
            referenced Stream will be tagged with. This value
            is used to distinguish Class A and Class B traffic."
        REFERENCE    "12.22.6, 35.2.2.8.5a"
        ::= { ieee8021SrpStreamPreloadEntry 6}

    ieee8021SrpStreamPreloadRank OBJECT-TYPE
        SYNTAX      IEEE8021SrpStreamRankValue
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "SRP supports emergency and non-emergency.
            Emergency traffic will interrupt non-emergency
            traffic if there is insufficient bandwidth or
            resources available for the emergency traffic."
        REFERENCE    "12.22.6, 35.2.2.8.5b"
        ::= { ieee8021SrpStreamPreloadEntry 7}


-- ==============================================================
-- The ieee8021SrpReservations subtree
-- This subtree defines the objects necessary for retrieving
-- the Stream attribute registrations on each port of a Bridge.
-- ==============================================================


-- ==============================================================
-- the ieee8021SrpReservationsTable
-- ==============================================================
ieee8021SrpReservationsTable OBJECT-TYPE
```

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```
    SYNTAX      SEQUENCE OF Ieee8021SrpReservationsEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table containing Stream attribute
        registrations per port."
    REFERENCE   "35.2.4"
    ::= { ieee8021SrpReservations 1 }

ieee8021SrpReservationsEntry OBJECT-TYPE
    SYNTAX      Ieee8021SrpReservationsEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects containing Stream attribute
        registrations per port. Rows in the table are
        automatically created for Streams registered on any
        port of a Bridge."
    INDEX  { ieee8021SrpReservationStreamId,
             ieee8021SrpReservationDirection,
             ieee8021BridgeBaseComponentId,
             ieee8021BridgeBasePort }
    ::= { ieee8021SrpReservationsTable 1 }


Ieee8021SrpReservationsEntry ::=
    SEQUENCE {
        ieee8021SrpReservationStreamId
            IEEE8021SrpStreamIdValue,
        ieee8021SrpReservationDirection
            IEEE8021SrpReservationDirectionValue,
        ieee8021SrpReservationDeclarationType
            IEEE8021SrpReservationDeclarationTypeValue,
        ieee8021SrpReservationAccumulatedLatency
            Unsigned32,
        ieee8021SrpReservationFailureSystemId
            OCTET STRING,
        ieee8021SrpReservationFailureCode
            IEEE8021SrpReservationFailureCodeValue,
        ieee8021SrpReservationDroppedStreamFrames
            Counter64,
        ieee8021SrpReservationStreamAge
            Unsigned32
        }

ieee8021SrpReservationStreamId OBJECT-TYPE
    SYNTAX      IEEE8021SrpStreamIdValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The Stream ID associated with the row of the table.

        Rows in the table are automatically created when
        Streams are registered via MSRP."
    REFERENCE   "35.2.2.8.2"
    ::= { ieee8021SrpReservationsEntry 1 }

ieee8021SrpReservationDirection OBJECT-TYPE
    SYNTAX      IEEE8021SrpReservationDirectionValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The source of this Stream registration, either
        Talker or Listener."
    REFERENCE   "35.2.1.2"
    ::= { ieee8021SrpReservationsEntry 2 }

ieee8021SrpReservationDeclarationType OBJECT-TYPE
    SYNTAX      IEEE8021SrpReservationDeclarationTypeValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The type of Talker or Listener registration."
```

```
        REFERENCE   "35.2.1.3"
        ::= { ieee8021SrpReservationsEntry 3 }

ieee8021SrpReservationAccumulatedLatency OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "nano-seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The Accumulated Latency associated with the current
            registration.

            For Talker registrations this represents the accumulated
            latency from the Talker to the ingress port of this
            Bridge.

            For Listener registrations this represents the accumulated
            latency to the ingress port of the neighbor Bridge or
            end stations. This include the latency of the media
            attached to this egress port."
        REFERENCE   "35.2.2.8.6"
        ::= { ieee8021SrpReservationsEntry 4 }

ieee8021SrpReservationFailureSystemId OBJECT-TYPE
        SYNTAX      OCTET STRING(SIZE(8))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The first system that changes a Talker Advertise to a
            Talker Failed registration will report its System
            Identification in this field. That single System
            Identification is then propagated from system to system."
        REFERENCE   "35.2.2.8.7a"
        ::= { ieee8021SrpReservationsEntry 5 }

ieee8021SrpReservationFailureCode OBJECT-TYPE
        SYNTAX      IEEE8021SrpReservationFailureCodeValue
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The first Bridge that changes a Talker Advertise to a
            Talker Failed registration will report the Failure Code
            in this field. That single Failure Code is then propagated
            from Bridge to Bridge."
        REFERENCE   "35.2.2.8.7b"
        ::= { ieee8021SrpReservationsEntry 6 }

ieee8021SrpReservationDroppedStreamFrames OBJECT-TYPE
        SYNTAX      Counter64
        UNITS       "frames"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A count of the number of data stream frames that have
            been dropped for whatever reason.  These are not MSRP
            frames, but the stream data frames that are carried by
            the MSRP Reservation.

            Discontinuities in the value of the counter can occur at
            re-initialization of the management system, and at other
            times as indicated by the value of ifCounterDiscontinuityTime
            object of the associated interface (if any)."
         REFERENCE   "35.2.5.1"
        ::= { ieee8021SrpReservationsEntry 7 }

ieee8021SrpReservationStreamAge OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The number of seconds since the reservation was established
```

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```
        on this port."
    REFERENCE   "35.2.1.4c"
    ::= { ieee8021SrpReservationsEntry 8 }


-- ============================================================
-- the ieee8021SrpReservationsPreloadTable
-- ============================================================
ieee8021SrpReservationsPreloadTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021SrpReservationsPreloadEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table containing Stream attribute
        registrations per port."
    REFERENCE   "12.22.7"
    ::= { ieee8021SrpReservations 2 }

ieee8021SrpReservationsPreloadEntry OBJECT-TYPE
    SYNTAX      Ieee8021SrpReservationsPreloadEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects containing Stream attribute
        registrations per port. Rows in the table are
        automatically created for Streams registered on any
        port of a Bridge."
    INDEX  { ieee8021SrpReservationsPreloadStreamId,
             ieee8021SrpReservationPreloadDirection,
             ieee8021BridgeBaseComponentId,
             ieee8021BridgeBasePort }
    ::= { ieee8021SrpReservationsPreloadTable 1 }

Ieee8021SrpReservationsPreloadEntry ::=
    SEQUENCE {
        ieee8021SrpReservationsPreloadStreamId
            IEEE8021SrpStreamIdValue,
        ieee8021SrpReservationPreloadDirection
            IEEE8021SrpReservationDirectionValue,
        ieee8021SrpReservationPreloadAccumulatedLatency
            Unsigned32
        }

ieee8021SrpReservationsPreloadStreamId OBJECT-TYPE
    SYNTAX      IEEE8021SrpStreamIdValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The 64-bit StreamID is used to match Talker
        registrations with their corresponding Listener
        registrations(35.2.4)."
    REFERENCE   "12.22.7, 35.2.2.8.2"
    ::= { ieee8021SrpReservationsPreloadEntry 1 }

ieee8021SrpReservationPreloadDirection OBJECT-TYPE
    SYNTAX      IEEE8021SrpReservationDirectionValue
    MAX-ACCESS  not-accessibleread-write
    STATUS      current
    DESCRIPTION
        "The source of this Stream registration, either
        Talker or Listener"
    REFERENCE   "12.22.7, 35.2.1.1"
    ::= { ieee8021SrpReservationsPreloadEntry 2 }

ieee8021SrpReservationPreloadAccumulatedLatency OBJECT-TYPE
    SYNTAX      Unsigned32
    UNITS       "nano-seconds"
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The Accumulated Latency associated with the current
        registration.
```

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```
        For Talker registrations this represents the accumulated
        latency from the Talker to the ingress port of this
        Bridge.

        For Listener registrations this represents the accumulated
        latency to the ingress port of the neighbor Bridge or
        end stations. This include the latency of the media
        attached to this egress port."
    REFERENCE    "12.22.7, 35.2.2.8.6"
    ::= { ieee8021SrpReservationsPreloadEntry 3 }



-- ================================================================
-- IEEE8021 SRP MIB - Conformance Information
-- ================================================================

ieee8021SrpCompliances
    OBJECT IDENTIFIER ::= { ieee8021SrpConformance 1 }
ieee8021SrpGroups
    OBJECT IDENTIFIER ::= { ieee8021SrpConformance 2 }

-- ================================================================
-- units of conformance
-- ================================================================


-- ================================================================
-- the ieee8021SrpConfiguration group
-- ================================================================

ieee8021SrpConfigurationGroup OBJECT-GROUP
    OBJECTS {
        ieee8021SrpBridgeBaseMsrpEnabledStatus,
        ieee8021SrpBridgeBaseMsrpTalkerPruning,
        ieee8021SrpBridgeBaseMsrpMaxFanInPorts,
        ieee8021SrpBridgeBaseMsrpLatencyMaxFrameSize,
        ieee8021SrpBridgeBaseMsrpTalkerVlanPruning,
        ieee8021SrpBridgeBaseMsrpMaxSRClasses,
        ieee8021SrpBridgePortMsrpEnabledStatus,
        ieee8021SrpBridgePortMsrpFailedRegistrations,
        ieee8021SrpBridgePortMsrpLastPduOrigin,
        ieee8021SrpBridgePortSrPvid,
        ieee8021SrpBridgePortMsrpTalkerPrunningPerPort
    }
    STATUS      current
    DESCRIPTION
        "Objects that define configuration of SRP."
    ::= { ieee8021SrpGroups 1 }

-- ================================================================
-- the ieee8021SrpLatency group
-- ================================================================

ieee8021SrpLatencyGroup OBJECT-GROUP
    OBJECTS {
        ieee8021SrpPortTcLatency
    }
    STATUS      current
    DESCRIPTION
        "Objects that define latency for SRP."
    ::= { ieee8021SrpGroups 2 }

-- ================================================================
-- the ieee8021SrpStreams group
-- ================================================================

ieee8021SrpStreamsGroup OBJECT-GROUP
    OBJECTS {
        -- ieee8021SrpStreamId,
        ieee8021SrpStreamDestinationAddress,
        ieee8021SrpStreamVlanId,
        ieee8021SrpStreamTspecMaxFrameSize,
```

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```
            ieee8021SrpStreamTspecMaxIntervalFrames,
            ieee8021SrpStreamDataFramePriority,
            ieee8021SrpStreamRank
        }
        STATUS       current
        DESCRIPTION
            "Objects that define Streams for SRP."
        ::= { ieee8021SrpGroups 3 }

    -- =============================================================
    -- the ieee8021SrpReservations group
    -- =============================================================

    ieee8021SrpReservationsGroup OBJECT-GROUP
        OBJECTS {
            -- ieee8021SrpReservationStreamId,
            -- ieee8021SrpReservationDirection,
            ieee8021SrpReservationDeclarationType,
            ieee8021SrpReservationAccumulatedLatency,
            ieee8021SrpReservationFailureSystemId,
            ieee8021SrpReservationFailureCode,
            ieee8021SrpReservationDroppedStreamFrames,
            ieee8021SrpReservationStreamAge
        }
        STATUS       current
        DESCRIPTION
            "Objects that define Stream Reservations for SRP."
        ::= { ieee8021SrpGroups 4 }

    -- =============================================================
    -- the ieee8021SrpConfigurationPruning group
    -- =============================================================

    ieee8021SrpConfigurationPruningGroup OBJECT-GROUP
        OBJECTS {
            ieee8021SrpBridgeBaseMsrpTalkerVlanPruning,
            ieee8021SrpBridgePortMsrpTalkerPrunningPerPort
        }
        STATUS       current
        DESCRIPTION
            "Objects that allow configuration of pruning behavior
            for SRP."
        ::= { ieee8021SrpGroups 5 }

    -- =============================================================
    -- the ieee8021SrpMonitoringSRclasses group
    -- =============================================================

    ieee8021SrpMonitoringSRclassesGroup OBJECT-GROUP
        OBJECTS {
            ieee8021SrpBridgeBaseMsrpMaxSRClasses
        }
        STATUS       current
        DESCRIPTION
            "Objects that provides information on the maximum number
            of SR classes supported on the Bridge."
        ::= { ieee8021SrpGroups 6 }

    -- =============================================================
    -- the ieee8021SrpStreamsPreload group
    -- =============================================================

    ieee8021SrpStreamsPreloadGroup OBJECT-GROUP
        OBJECTS {
            ieee8021SrpStreamPreloadId,
            ieee8021SrpStreamPreloadDestinationAddress,
            ieee8021SrpStreamPreloadVlanId,
            ieee8021SrpStreamPreloadTspecMaxFrameSize,
            ieee8021SrpStreamPreloadTspecMaxIntervalFrames,
            ieee8021SrpStreamPreloadDataFramePriority,
            ieee8021SrpStreamPreloadRank
        }
```

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```
    STATUS       current
    DESCRIPTION
        "Objects that allow to preload parameters for each
        StreamId on Bridge Ports as the Bridge initializes."
    ::= { ieee8021SrpGroups 7 }

-- ================================================================
-- the ieee8021SrpReservationsPreload group
-- ================================================================

ieee8021SrpReservationsPreloadGroup OBJECT-GROUP
    OBJECTS {
        ieee8021SrpReservationsPreloadStreamId,
        ieee8021SrpReservationPreloadDirection,
        ieee8021SrpReservationPreloadAccumulatedLatency
    }
    STATUS       current
    DESCRIPTION
        "Objects that allow to initialize Streams within each
        Bridge as it powers up, to preload the Stream
        registrations that will later be provided by operation
        of SRP."
    ::= { ieee8021SrpGroups 8 }

-- ================================================================
-- compliance statements
-- ================================================================

ieee8021SrpCompliance MODULE-COMPLIANCE
    STATUS       current
    DESCRIPTION
        "The compliance statement for devices supporting
        Stream Reservation Protocol.

        Support of the objects defined in the IEEE8021-SRP MIB
        also requires support of the IEEE8021-BRIDGE-MIB; the
        provisions of 17.3.2 apply to implementations claiming
        support of the IEEE8021-SRP MIB."

    MODULE -- this module
        MANDATORY-GROUPS {
            ieee8021SrpConfigurationGroup,
            ieee8021SrpLatencyGroup,
            ieee8021SrpStreamsGroup,
            ieee8021SrpReservationsGroup
        }

    GROUP   ieee8021SrpConfigurationPruningGroup
    DESCRIPTION
        "Implementation of this group is optional. Implementation
        will allow configuration of pruning behavior for SRP."

    GROUP   ieee8021SrpMonitoringSRclassesGroup
    DESCRIPTION
        "Implementation of this group is optional. Implementation
        will allow configuration of pruning behavior for SRP."

    GROUP   ieee8021SrpStreamsPreloadGroup
    DESCRIPTION
        "Implementation of this group is optional. Implementation
        will allow to preload parameters for each StreamId on
        Bridge Ports as the Bridge initializes."

    GROUP   ieee8021SrpReservationsPreloadGroup
    DESCRIPTION
        "Implementation of this group is optional. Implementation
        will allow to initialize Streams within each Bridge as it
        powers up, to preload the Stream registrations that will
        later be provided by operation of SRP."

    ::= { ieee8021SrpCompliances 1 }
```

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END

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17.7.22 Definitions for the IEEE8021-ST-MIB module

Change 17.7.22 as follows:

```
IEEE8021-ST-MIB DEFINITIONS ::= BEGIN

-- =================================================================
-- MIB for support of the Scheduled Traffic Enhancements
-- for IEEE 802.1Q Bridges.
-- =================================================================


IMPORTS
    MODULE-IDENTITY,
    OBJECT-TYPE,
    Unsigned32,
    Counter64
        FROM SNMPv2-SMI
    TEXTUAL-CONVENTION,
    TruthValue
        FROM SNMPv2-TC
    MODULE-COMPLIANCE,
    OBJECT-GROUP
        FROM SNMPv2-CONF
    ieee802dot1mibs
        FROM IEEE8021-TC-MIB
    ieee8021BridgeBaseComponentId,
    ieee8021BridgeBasePort
        FROM IEEE8021-BRIDGE-MIB
    ;

ieee8021STMib MODULE-IDENTITY
    LAST-UPDATED "202211080000Z" -- November 8, 2022"202309260000Z" -- September 26, 2023
    ORGANIZATION "IEEE 802.1 Working Group"
    CONTACT-INFO
        "  WG-URL: http://www.ieee802.org/1/
         WG-EMail: stds-802-1-l@ieee.org
          Contact: IEEE 802.1 Working Group Chair
           Postal: C/O IEEE 802.1 Working Group
                   IEEE Standards Association
                   445 Hoes Lane
                   Piscataway, NJ 08854
                   USA
           E-mail: stds-802-1-chairs@ieee.org"
    DESCRIPTION
        "The Bridge MIB module for managing devices that support
        the Scheduled Traffic Enhancements
        for IEEE 802.1Q Bridges.

        Unless otherwise indicated, the references in this MIB
        module are to IEEE Std 802.1Q-2022 as amended by
        IEEE Std 802.1Qcz and IEEE Std 802.1Qcw.

        Copyright (C) IEEE (20222023).
        This version of this MIB module is part of IEEE Std 802.1Q;
        see that standard for full legal notices."

    REVISION "202309260000Z" -- September 26, 2023
    DESCRIPTION
            "Update to include SupportedCycleMax and
            SupportedIntervalMax parameters.
            Published as part of IEEE Std 802.1Qcw-2023."

    REVISION "202211080000Z" -- November 8, 2022
    DESCRIPTION
            "Published as part of IEEE Std 802.1Q-2022.
            Cross references and contact information updated."

    REVISION "201807010000Z" -- July 1, 2018
    DESCRIPTION
```

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```
                   "Published as part of IEEE Std 802.1Q 2018 revision.
                   Cross references updated and corrected."

       REVISION "201608150000Z" -- August 15, 2016
       DESCRIPTION
           "Revised to include Set-And-Hold-MAC and
           Set-And-Release-MAC in the description of
           ieee8021STAdminControlList and
           ieee8021STOperControlList.
           Published as part of IEEE Std 802.1Qbu."

   REVISION "201602190000Z" -- February 19, 2016
       DESCRIPTION
               "Initial version published as part of IEEE Std 802.1Qbv."

           ::= { ieee802dot1mibs 30 }


-- ============================================================
-- Textual Conventions
-- ============================================================

IEEE8021STTrafficClassValue ::= TEXTUAL-CONVENTION
    DISPLAY-HINT "d"
    STATUS      current
    DESCRIPTION
        "A traffic class value.
        This is the numerical value associated with a traffic
        class in a Bridge. Larger values are associated with
        higher priority traffic classes."
    REFERENCE   "12.29.1"
    SYNTAX      Unsigned32 (0..7)

IEEE8021STPTPtimeValue ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "A PTPtime value, represented as a 48-bit unsigned integer
        number of seconds and a 32-bit unsigned integer number of
        nanoseconds.
        The first 6 octets represent the number of seconds: the
        first octet is the most significant
        octet of the 48-bit seconds value and the sixth octet
        is the least significant octet of the seconds value.
        The remaining octets, 7 through 10,  represent the
        number of nanoseconds: the seventh octet
        is the most significant octet of the 32-bit nanoseconds
        value and the tenth octet is the
        least significant octet of the nanoseconds value."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    SYNTAX      OCTET STRING (SIZE(10))


-- ============================================================
-- subtrees in the ST MIB
-- ============================================================

ieee8021STNotifications
    OBJECT IDENTIFIER ::= { ieee8021STMib 0 }

ieee8021STObjects
    OBJECT IDENTIFIER ::= { ieee8021STMib 1 }

ieee8021STConformance
    OBJECT IDENTIFIER ::= { ieee8021STMib 2 }

ieee8021STMaxSDUSubtree
    OBJECT IDENTIFIER ::= { ieee8021STObjects 1 }

ieee8021STParameters
    OBJECT IDENTIFIER ::= { ieee8021STObjects 2 }


-- ============================================================
-- The ieee8021STMaxSDUSubtree subtree
```

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```
-- This subtree defines the objects necessary for the management
-- of the max SDU size parameters for each traffic class on a Port.
-- =============================================================

-- =============================================================
-- the ieee8021STMaxSDUTable
-- =============================================================

ieee8021STMaxSDUTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021STMaxSDUEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table containing a set of max SDU
        parameters, one for each traffic class.
        All writable objects in this table must be
        persistent over power up restart/reboot."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STMaxSDUSubtree 1 }

ieee8021STMaxSDUEntry OBJECT-TYPE
    SYNTAX      Ieee8021STMaxSDUEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects containing Max SDU size
        for each traffic class supported by the Port."
    INDEX  { ieee8021BridgeBaseComponentId,
             ieee8021BridgeBasePort,
             ieee8021STTrafficClass  }
    ::= { ieee8021STMaxSDUTable 1 }

Ieee8021STMaxSDUEntry ::=
    SEQUENCE {
        ieee8021STTrafficClass
            IEEE8021STTrafficClassValue,
        ieee8021STMaxSDU
            Unsigned32,
        ieee8021TransmissionOverrun
            Counter64
        }

ieee8021STTrafficClass OBJECT-TYPE
    SYNTAX      IEEE8021STTrafficClassValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The traffic class number associated with the row of
        the table.

        A row in this table is created for each traffic class
        that is supported by the Port"
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STMaxSDUEntry 1 }

ieee8021STMaxSDU OBJECT-TYPE
    SYNTAX      Unsigned32
    UNITS       "octets"
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value of the MaxSDU parameter for the traffic class.
        This value is represented as an unsigned integer. A value
        of 0 is interpreted as the max SDU size supported by
        the underlying MAC.

        The default value of the MaxSDU parameter is 0.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
```

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```
    DEFVAL  { 0 }
    ::= { ieee8021STMaxSDUEntry 2}


ieee8021TransmissionOverrun OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A counter of transmission overrun events, where
        a PDU is still being transmitted by a MAC at the
        time when the transmission gate for the queue closed."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1, 12.29.1.1.2"
    DEFVAL  { 0 }
    ::= { ieee8021STMaxSDUEntry 3}



-- ============================================================
-- The ieee8021STParameters subtree
-- This subtree defines the objects necessary for the management
-- of the traffic scheduling mechanism for IEEE Std 802.1Q.
-- ============================================================

-- ============================================================
-- the ieee8021STParametersTable
-- ============================================================

ieee8021STParametersTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021STParametersEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains the per-port manageable parameters for
        traffic scheduling.

        For a given Port, a row in the table exists.

        All writable objects in this table must be
        persistent over power up restart/reboot."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParameters 1 }

ieee8021STParametersEntry OBJECT-TYPE
    SYNTAX      Ieee8021STParametersEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects that contains the manageable parameters for
        traffic scheduling for a port."
    INDEX   { ieee8021BridgeBaseComponentId,
            ieee8021BridgeBasePort
            }
    ::= { ieee8021STParametersTable 1 }

Ieee8021STParametersEntry ::=
    SEQUENCE {
        ieee8021STGateEnabled
            TruthValue,
        ieee8021STAdminGateStates
            OCTET STRING,
        ieee8021STOperGateStates
            OCTET STRING,
        ieee8021STAdminControlListLength
            Unsigned32,
        ieee8021STOperControlListLength
            Unsigned32,
        ieee8021STAdminControlList
            OCTET STRING,
        ieee8021STOperControlList
            OCTET STRING,
        ieee8021STAdminCycleTimeNumerator
            Unsigned32,
```

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```
                ieee8021STAdminCycleTimeDenominator
                    Unsigned32,
                ieee8021STOperCycleTimeNumerator
                    Unsigned32,
                ieee8021STOperCycleTimeDenominator
                    Unsigned32,
                ieee8021STAdminCycleTimeExtension
                    Unsigned32,
                ieee8021STOperCycleTimeExtension
                    Unsigned32,
                ieee8021STAdminBaseTime
                    IEEE8021STPTPtimeValue,
                ieee8021STOperBaseTime
                    IEEE8021STPTPtimeValue,
                ieee8021STConfigChange
                    TruthValue,
                ieee8021STConfigChangeTime
                    IEEE8021STPTPtimeValue,
                ieee8021STTickGranularity
                    Unsigned32,
                ieee8021STCurrentTime
                    IEEE8021STPTPtimeValue,
                ieee8021STConfigPending
                    TruthValue,
                ieee8021STConfigChangeError
                    Counter64,
                ieee8021STSupportedListMax
                    Unsigned32,
                ieee8021STSupportedCycleMaxNumerator
                    Unsigned32,
                ieee8021STSupportedCycleMaxDenominator
                    Unsigned32,
                ieee8021STSupportedIntervalMax
                    Unsigned32
                    }

ieee8021STGateEnabled OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The GateEnabled parameter determines whether traffic scheduling
        is active (true) or inactive (false).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    DEFVAL { false }
    ::= { ieee8021STParametersEntry 1 }

ieee8021STAdminGateStates OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(1))
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The administrative value of the GateStates parameter for the Port.
        The bits of the octet represent the gate states for the
        corresponding traffic classes; the MS bit corresponds to traffic class 7,
        the LS bit to traffic class 0. A bit value of 0 indicates closed; a
        bit value of 1 indicates open.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 2 }

ieee8021STOperGateStates OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(1))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the GateStates parameter for the Port.
```

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```
            The bits of the octet represent the gate states for the
            corresponding traffic classes; the MS bit corresponds to traffic class 7,
            the LS bit to traffic class 0. A bit value of 0 indicates closed; a
            bit value of 1 indicates open."
        REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
        ::= { ieee8021STParametersEntry 3 }


ieee8021STAdminControlListLength OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The administrative value of the ListMax parameter for the Port.
            The integer value indicates the number of entries (TLVs) in the
            AdminControlList.

            The value of this object MUST be retained across
            reinitializations of the management system."
        REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
        ::= { ieee8021STParametersEntry 4 }


ieee8021STOperControlListLength OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The operational value of the ListMax parameter for the Port.
            The integer value indicates the number of entries (TLVs) in the
            OperControlList."
        REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
        ::= { ieee8021STParametersEntry 5 }


ieee8021STAdminControlList OBJECT-TYPE
        SYNTAX      OCTET STRING
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The administrative value of the ControlList parameter for the Port.
            The octet string value represents the contents of the control list as
            an ordered list of entries, each encoded as a TLV, as follows.
            The first octet  of each TLV is interpreted as an
            unsigned integer representing a gate operation name:
                0: SetGateStates
                1: Set-And-Hold-MAC
                2: Set-And-Release-MAC
                3-255: Reserved for future gate operations

            The second octet of the TLV is the length field,
            interpreted as an unsigned integer, indicating the number of
            octets of the value that follows the length. A length of
            zero indicates that there is no value
            (i.e., the gate operation has no parameters).

            The third through (3 + length -1)th octets encode the
            parameters of the gate operation, in the order that they
            appear in the definition of the operation
            in Table 8-6. Two parameter types are currently defined:

            - GateState:
                A GateState parameter is encoded in a single octet.
                The bits of the octet represent the gate states for the
                corresponding traffic classes; the MS bit corresponds
                to traffic class 7,
                the LS bit to traffic class 0. A bit value of 0 indicates
                closed; a bit value of 1 indicates open.

            - TimeInterval:
                A TimeInterval is encoded in 4 octets as a 32-bit
                unsigned integer, representing a number of nanoseconds.
                The first octet encodes the most significant 8 bits of the
                integer, and the fourth octet encodes the least
                significant 8 bits.
```

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```
        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 6 }


ieee8021STOperControlList OBJECT-TYPE
    SYNTAX      OCTET STRING
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the ListMax parameter for the Port.
        The octet string value represents the contents of the control list as
        an ordered list of TLVs, as follows.
        The first octet  of each TLV is interpreted as a gate operation name:
            0: SetGateStates
            1: Set-And-Hold-MAC
            2: Set-And-Release-MAC
            3-255: Reserved for future gate operations

        The second octet of the TLV is the length field,
        interpreted as an unsigned integer,
        indicating the number of octets of the value that follows
        the length. A length of zero indicates that there is no value
        (i.e., the gate operation has no parameters).

        The third through (3 + length -1)th octets encode the
        parameters of the gate operation, in the order that they
        appear in the definition of the operation
        in Table 8-6. Two parameter types are currently defined:

        - GateState:
            A GateState parameter is encoded in a single octet.
            The bits of the octet represent the gate states for the
            corresponding traffic classes; the MS bit corresponds to
            traffic class 7, the LS bit to traffic class 0.
            A bit value of 0 indicates closed; a
            bit value of 1 indicates open.

        - TimeInterval:
            A TimeInterval is encoded in 4 octets as a 32-bit
            unsigned integer, representing
            a number of nanoseconds. The first octet encodes the
            most significant 8 bits of the integer, and the fourth
            octet encodes the least significant 8 bits."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 7 }


ieee8021STAdminCycleTimeNumerator OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The administrative value of the numerator of the CycleTime
        parameter for the Port.
        The numerator and denominator together represent the cycle time as
        a rational number of seconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 8 }


ieee8021STAdminCycleTimeDenominator OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The administrative value of the denominator of the
        CycleTime parameter for the Port.
        The numerator and denominator together represent the cycle time as
        a rational number of seconds.
```

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```
        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 9 }


ieee8021STOperCycleTimeNumerator OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the numerator of the
        CycleTime parameter for the Port.
        The numerator and denominator together represent the cycle
        time as a rational number of seconds."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 10 }


ieee8021STOperCycleTimeDenominator OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the denominator of the
        CycleTime parameter for the Port.
        The numerator and denominator together represent the
        cycle time as a rational number of seconds."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 11 }


ieee8021STAdminCycleTimeExtension OBJECT-TYPE
    SYNTAX      Unsigned32
    UNITS       "nanoseconds"
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The administrative value of the CycleTimeExtension
        parameter for the Port.
        The value is an unsigned integer number of nanoseconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 12 }


ieee8021STOperCycleTimeExtension OBJECT-TYPE
    SYNTAX      Unsigned32
    UNITS       "nanoseconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the CycleTimeExtension parameter for the Port.
        The value is an unsigned integer number of nanoseconds."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 13 }


ieee8021STAdminBaseTime OBJECT-TYPE
    SYNTAX      IEEE8021STPTPtimeValue
    UNITS       "PTP time"
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The administrative value of the BaseTime parameter for the Port.
        The value is a representation of a PTPtime value,
        consisting of a 48-bit integer
        number of seconds and a 32-bit integer number of nanoseconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 14 }
```

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```
ieee8021STOperBaseTime OBJECT-TYPE
    SYNTAX      IEEE8021STPTPtimeValue
    UNITS       "PTP time"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operationsl operational value of the BaseTime parameter for the Port.
        The value is a representation of a PTPtime value,
        consisting of a 48-bit integer
        number of seconds and a 32-bit integer number of nanoseconds."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 15 }

ieee8021STConfigChange OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The ConfigChange parameter signals the start of a
        configuration change
        when it is set to TRUE. This should only be done
        when the various administrative parameters
        are all set to appropriate values."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 16 }

ieee8021STConfigChangeTime OBJECT-TYPE
    SYNTAX      IEEE8021STPTPtimeValue
    UNITS       "PTP time"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The PTPtime at which the next config change is scheduled to occur.
        The value is a representation of a PTPtime value,
        consisting of a 48-bit integer
        number of seconds and a 32-bit integer number of nanoseconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 17 }

    ieee8021STTickGranularity OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The granularity of the cycle time clock, represented as an
        unsigned number of tenths of nanoseconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 18 }

ieee8021STCurrentTime OBJECT-TYPE
    SYNTAX      IEEE8021STPTPtimeValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The current time, in PTPtime, as maintained by the local system.
        The value is a representation of a PTPtime value,
        consisting of a 48-bit integer
        number of seconds and a 32-bit integer number of nanoseconds."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
    ::= { ieee8021STParametersEntry 19 }

ieee8021STConfigPending OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
```

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```
            "The value of the ConfigPending state machine variable.
            The value is TRUE if a configuration change is in progress
            but has not yet completed."
        REFERENCE   "8.6.8.4, 8.6.9.4, 12.29.1"
        ::= { ieee8021STParametersEntry 20 }

  ieee8021STConfigChangeError OBJECT-TYPE
        SYNTAX      Counter64
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A counter of the number of times that a re-configuration
            of the traffic schedule has been requested with the old
            schedule still running and the requested base time was
            in the past."
        REFERENCE   "8.6.8.4, 8.6.9.3, 12.29.1"
        ::= { ieee8021STParametersEntry 21 }

ieee8021STSupportedListMax OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The maximum value supported by this Port of the
            AdminControlListLength and OperControlListLength
            parameters."
        REFERENCE   "12.29.1.5"
        ::= { ieee8021STParametersEntry 22 }

ieee8021STSupportedCycleMaxNumerator OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The numerator of the SupportedCycleMax parameter for
            the Port. The numerator and denominator together
            represent the maximum value supported by this Port of
            the AdminCycleTime and OperCycleTime parameters"
        REFERENCE   "12.29.1.6"
        ::= { ieee8021STParametersEntry 23 }

ieee8021STSupportedCycleMaxDenominator OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The denominator of the SupportedCycleMax parameter for
            the Port. The numerator and denominator together
            represent the maximum value supported by this Port of
            the AdminCycleTime and OperCycleTime parameters"
        REFERENCE   "12.29.1.6"
        ::= { ieee8021STParametersEntry 24 }

ieee8021STSupportedIntervalMax OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The maximum value supported by this Port of the
            TimeIntervalValue parameter."
        REFERENCE   "12.29.1.7"
        ::= { ieee8021STParametersEntry 25 }

-- ================================================================
-- IEEE8021 ST MIB - Conformance Information
-- ================================================================

ieee8021STCompliances
    OBJECT IDENTIFIER ::= { ieee8021STConformance 1 }
ieee8021STGroups
    OBJECT IDENTIFIER ::= { ieee8021STConformance 2 }
```

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```
-- ================================================================
-- units of conformance
-- ================================================================


-- ================================================================
-- the ieee8021STObjectsGroup group
-- ================================================================

ieee8021STObjectsGroup OBJECT-GROUP
    OBJECTS {
        ieee8021STMaxSDU,
        ieee8021TransmissionOverrun,
        ieee8021STGateEnabled,
        ieee8021STAdminGateStates,
        ieee8021STOperGateStates,
        ieee8021STAdminControlListLength,
        ieee8021STOperControlListLength,
        ieee8021STAdminControlList,
        ieee8021STOperControlList,
        ieee8021STAdminCycleTimeNumerator,
        ieee8021STAdminCycleTimeDenominator,
        ieee8021STOperCycleTimeNumerator,
        ieee8021STOperCycleTimeDenominator,
        ieee8021STAdminCycleTimeExtension,
        ieee8021STOperCycleTimeExtension,
        ieee8021STAdminBaseTime,
        ieee8021STOperBaseTime,
        ieee8021STConfigChange,
        ieee8021STConfigChangeTime,
        ieee8021STTickGranularity,
        ieee8021STCurrentTime,
        ieee8021STConfigPending,
        ieee8021STConfigChangeError,
        ieee8021STSupportedListMax,
        ieee8021STSupportedCycleMaxNumerator,
        ieee8021STSupportedCycleMaxDenominator,
        ieee8021STSupportedIntervalMax
    }
    STATUS      current
    DESCRIPTION
        "Objects that allow management of scheduled traffic."
    ::= { ieee8021STGroups 1 }


-- ================================================================
-- compliance statements
-- ================================================================

ieee8021STCompliance MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION
        "The compliance statement for devices supporting
        scheduled traffic.

        Support of the objects defined in this MIB module
        also requires support of the IEEE8021-BRIDGE-MIB; the
        provisions of 17.3.2 apply to implementations claiming
        support of this MIB. "

    MODULE -- this module
        MANDATORY-GROUPS {
            ieee8021STObjectsGroup
        }

    ::= { ieee8021STCompliances 1 }


END
```

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17.7.24 Definitions for the IEEE8021-PSFP-MIB module

Change 17.7.24 as follows:

```
IEEE8021-PSFP-MIB DEFINITIONS ::= BEGIN

-- ================================================================
-- MIB for support of the Per-Stream Filtering and Policing
-- Enhancements for IEEE 802.1Q Bridges.
-- ================================================================

IMPORTS
    MODULE-IDENTITY,
    OBJECT-TYPE,
    Unsigned32,
    Integer32,
    Counter64
        FROM SNMPv2-SMI
    TruthValue, RowStatus
        FROM SNMPv2-TC
    MODULE-COMPLIANCE,
    OBJECT-GROUP
        FROM SNMPv2-CONF
    ieee802dot1mibs
        FROM IEEE8021-TC-MIB
    ieee8021BridgeBaseComponentId
        FROM IEEE8021-BRIDGE-MIB
    IEEE8021STPTPtimeValue
        FROM IEEE8021-ST-MIB
    ;

ieee8021PSFPMib MODULE-IDENTITY
    LAST-UPDATED "202201130000Z" -- January 13, 2022"202309260000Z" -- September 26, 2023
    ORGANIZATION "IEEE 802.1 Working Group"
    CONTACT-INFO
        "  WG-URL: http://www.ieee802.org/1/
         WG-EMail: stds-802-1-l@ieee.org
          Contact: IEEE 802.1 Working Group Chair
           Postal: C/O IEEE 802.1 Working Group
                   IEEE Standards Association
                   445 Hoes Lane
                   Piscataway, NJ 08854
                   USA
           E-mail: stds-802-1-chairs@ieee.org"
    DESCRIPTION
        "The Bridge MIB module for managing devices that support
        the Per-Stream Filtering and Policing enhancements
        for IEEE 802.1Q Bridges.

        Unless otherwise indicated, the references in this MIB
        module are to IEEE Std 802.1Q-2022.

        Copyright (C) IEEE (20222023).
        This version of this MIB module is part of IEEE Std 802.1Q;
        see that standard for full legal notices."

    REVISION "202309260000Z" -- September 26, 2023
    DESCRIPTION
            "Update to include SupportedCycleMax and
            SupportedIntervalMax parameters.
            Published as part of IEEE Std 802.1Qcw-2023."

    REVISION "202201130000Z" -- January 13, 2022
    DESCRIPTION
            "Published as part of IEEE Std 802.1Q-2022.
            Cross references and contact information updated."

    REVISION "202011060000Z" -- November 6, 2020
    DESCRIPTION
            "Published as part of IEEE Std 802.1Qcr-2020.
```

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```
            Cross references and contact information updated."

    REVISION "201807010000Z" -- July 1, 2018
    DESCRIPTION
            "Published as part of IEEE Std 802.1Q 2018 revision.
            Cross references updated and corrected."

     REVISION "201709080000Z" -- September 29, 2017
    DESCRIPTION
            "Initial version published as part of IEEE Std 802.1Qci."

      ::= { ieee802dot1mibs 31 }


-- ================================================================
-- subtrees in the PSFP MIB
-- ================================================================

ieee8021PSFPNotifications
    OBJECT IDENTIFIER ::= { ieee8021PSFPMib 0 }

ieee8021PSFPObjects
    OBJECT IDENTIFIER ::= { ieee8021PSFPMib 1 }

ieee8021PSFPConformance
    OBJECT IDENTIFIER ::= { ieee8021PSFPMib 2 }

ieee8021PSFPStreamFilterParameters
    OBJECT IDENTIFIER ::= { ieee8021PSFPObjects 1 }

ieee8021PSFPStreamGateParameters
    OBJECT IDENTIFIER ::= { ieee8021PSFPObjects 2 }

ieee8021PSFPFlowMeterParameters
    OBJECT IDENTIFIER ::= { ieee8021PSFPObjects 3 }

ieee8021PSFPStreamParameters
    OBJECT IDENTIFIER ::= { ieee8021PSFPObjects 4 }


-- ================================================================
-- The ieee8021PSFPStreamFilterParameters subtree
-- This subtree defines the objects necessary for the management
-- of the stream filters for IEEE Std 802.1Q.
-- ================================================================


-- ================================================================
-- the ieee8021PSFPStreamFilterTable
-- ================================================================

ieee8021PSFPStreamFilterTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021PSFPStreamFilterEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains the per-filter instance
        manageable parameters for stream filters.

        A row in the table exists for each stream filter instance.
        associated with a Bridge component.

        All writable objects in this table must be
        persistent over power up restart/reboot."
    REFERENCE   "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterParameters 1 }

ieee8021PSFPStreamFilterEntry OBJECT-TYPE
    SYNTAX      Ieee8021PSFPStreamFilterEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects that contains the manageable parameters for
```

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```
            stream filters for a Bridge component."
        INDEX  { ieee8021BridgeBaseComponentId,
                 ieee8021PSFPStreamFilterInstance
               }
        ::= { ieee8021PSFPStreamFilterTable 1 }


Ieee8021PSFPStreamFilterEntry ::=
    SEQUENCE {
        ieee8021PSFPStreamFilterInstance
            Unsigned32,
        ieee8021PSFPStreamHandleSpec
            Integer32,
        ieee8021PSFPPrioritySpec
            Integer32,
        ieee8021PSFPStreamGateInstanceID
            Unsigned32,
        ieee8021PSFPFilterSpecificationList
            OCTET STRING,
        ieee8021PSFPMatchingFramesCount
            Counter64,
        ieee8021PSFPPassingFramesCount
            Counter64,
        ieee8021PSFPNotPassingFramesCount
            Counter64,
        ieee8021PSFPPassingSDUCount
            Counter64,
        ieee8021PSFPNotPassingSDUCount
            Counter64,
        ieee8021PSFPREDFramesCount
            Counter64,
        ieee8021PSFPStreamBlockedDueToOversizeFrameEnable
            TruthValue,
        ieee8021PSFPStreamBlockedDueToOversizeFrame
            TruthValue,
        ieee8021PSFPStreamFilterEntryRowStatus
            RowStatus
             }

ieee8021PSFPStreamFilterInstance OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The StreamFilterInstance parameter is an index into the
        StreamFilterTable.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterEntry 1}

ieee8021PSFPStreamHandleSpec OBJECT-TYPE
    SYNTAX      Integer32 (-1..2147483647)
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The StreamHandleSpec parameter contains a stream identifier
        specification value. A value of -1 denotes the wild card value;
        all positive values denote stream identifier values.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterEntry 2}

ieee8021PSFPPrioritySpec OBJECT-TYPE
    SYNTAX      Integer32 (-1..2147483647)
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The PrioritySpec parameter contains a priority
        specification value. A value of -1 denotes the wild card value;
```

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```
        zero or positive values denote priority values.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE    "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterEntry 3}

ieee8021PSFPStreamGateInstanceID OBJECT-TYPE
    SYNTAX       Unsigned32
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "The StreamGateInstance parameter contains the index of an
        entry in the Stream Gate Table.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE    "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterEntry 4}

ieee8021PSFPFilterSpecificationList OBJECT-TYPE
    SYNTAX       OCTET STRING
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "The FilterSpecificationList parameter contains a list of
        filter specifications associated with this stream filter.

        The octet string value represents the contents of the list as
        an ordered list of entries, each encoded as a TLV, as follows.

        The first octet  of each TLV is interpreted as an
        unsigned integer representing a filter specification type:
            0: Maximum SDU Size.
            1: Flow meter instance identifier.
            2-255: Reserved for future filter specification types

        The second and third octets of the TLV are the length field,
        interpreted as an unsigned integer, indicating the number of
        octets of the value that follows the length. A length of
        zero indicates that there is no value
        (i.e., the filter specification has no parameters).

        The fourth through (4 + length -1)th octets encode the
        parameters of the filter specification, as defined for each
        filter specification type.

        - Maximum SDU Size:
            A single SDU size parameter is encoded in four octets, and
            is interpreted as an unsigned integer value.

        - Flow meter instance identifier:
            A single flow meter instance identifier is encoded in
            four octets, and is interpreted as an unsigned integer value.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE    "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterEntry 5}

ieee8021PSFPMatchingFramesCount OBJECT-TYPE
    SYNTAX       Counter64
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The MatchingFramesCount counter counts received frames that
        match this stream filter.
        "
    REFERENCE    "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterEntry 6}

ieee8021PSFPPassingFramesCount OBJECT-TYPE
```

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```
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The PassingFramesCount counter counts received frames that
        pass the gate associated with this stream filter.
        "
    REFERENCE   "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterEntry 7}

ieee8021PSFPNotPassingFramesCount OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The NotPassingFramesCount counter counts received frames that
        do not pass the gate associated
        with this stream filter.
        "
    REFERENCE   "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterEntry 8}

ieee8021PSFPPassingSDUCount OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The  PassingSDUCount counter counts received frames that
        pass the maximum SDU size filter specification associated
        with this stream filter.
        "
    REFERENCE   "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterEntry 9}

ieee8021PSFPNotPassingSDUCount OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The  NotPassingSDUCount counter counts received frames that
        do not pass the maximum SDU size filter specification associated
        with this stream filter.
        "
    REFERENCE   "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterEntry 10}

ieee8021PSFPREDFramesCount OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The REDFramesCount counter counts received
         frames that were discarded as a result of the
         operation of the flow meter.
        "
    REFERENCE   "8.6.5.2.1, 8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamFilterEntry 11}

ieee8021PSFPStreamBlockedDueToOversizeFrameEnable OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The ieee8021PSFPStreamBlockedDueToOversizeFrameEnable object
        contains a Boolean value that indicates whether the
        StreamBlockedDueToOversizeFrame function is
        enabled (TRUE) or disabled (FALSE).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.2.1, 8.6.5.3, 12.31.2"
    DEFVAL { false }
```

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```
      ::= { ieee8021PSFPStreamFilterEntry 12 }

ieee8021PSFPStreamBlockedDueToOversizeFrame OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The ieee8021PSFPStreamBlockedDueToOversizeFrame object
        contains a Boolean value that indicates whether, if the
        StreamBlockedDueToOversizeFrame function is
        enabled, all frames are to be discarded (TRUE)
        or not (FALSE).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.2.1, 8.6.5.3, 12.31.2"
    DEFVAL { false }
    ::= { ieee8021PSFPStreamFilterEntry 13 }

ieee8021PSFPStreamFilterEntryRowStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The status of the row.

         The writable columns in a row cannot be changed if the row
         is active. All columns MUST have a valid value before a row
         can be activated.
        "
    ::= { ieee8021PSFPStreamFilterEntry 14 }


-- ============================================================
-- The ieee8021PSFPStreamGateParameters subtree
-- This subtree defines the objects necessary for the management
-- of the stream gate scheduling mechanism for IEEE Std 802.1Q.
-- ============================================================

-- ============================================================
-- the ieee8021PSFPStreamGateTable
-- ============================================================

ieee8021PSFPStreamGateTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021PSFPStreamGateEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains the per-gate instance
        manageable parameters for stream gate scheduling.

        For a given Bridge component, a row in the table exists for
        each stream gate instance.

        All writable objects in this table must be
        persistent over power up restart/reboot."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateParameters 1 }

ieee8021PSFPStreamGateEntry OBJECT-TYPE
    SYNTAX      Ieee8021PSFPStreamGateEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects that contains the manageable parameters for
        stream gate scheduling for a Bridge component."
    INDEX   { ieee8021BridgeBaseComponentId,
          ieee8021PSFPStreamGateInstance
          }
    ::= { ieee8021PSFPStreamGateTable 1 }

Ieee8021PSFPStreamGateEntry ::=
```

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```
    SEQUENCE {
        ieee8021PSFPStreamGateInstance
            Unsigned32,
        ieee8021PSFPGateEnabled
            TruthValue,
        ieee8021PSFPAdminGateStates
            INTEGER,
        ieee8021PSFPOperGateStates
            INTEGER,
        ieee8021PSFPAdminControlListLength
            Unsigned32,
        ieee8021PSFPOperControlListLength
            Unsigned32,
        ieee8021PSFPAdminControlList
            OCTET STRING,
        ieee8021PSFPOperControlList
            OCTET STRING,
        ieee8021PSFPAdminCycleTimeNumerator
            Unsigned32,
        ieee8021PSFPAdminCycleTimeDenominator
            Unsigned32,
        ieee8021PSFPOperCycleTimeNumerator
            Unsigned32,
        ieee8021PSFPOperCycleTimeDenominator
            Unsigned32,
        ieee8021PSFPAdminCycleTimeExtension
            Unsigned32,
        ieee8021PSFPOperCycleTimeExtension
            Unsigned32,
        ieee8021PSFPAdminBaseTime
            IEEE8021STPTPtimeValue,
        ieee8021PSFPOperBaseTime
            IEEE8021STPTPtimeValue,
        ieee8021PSFPConfigChange
            TruthValue,
        ieee8021PSFPConfigChangeTime
            IEEE8021STPTPtimeValue,
        ieee8021PSFPTickGranularity
            Unsigned32,
        ieee8021PSFPCurrentTime
            IEEE8021STPTPtimeValue,
        ieee8021PSFPConfigPending
            TruthValue,
        ieee8021PSFPConfigChangeError
            Counter64,
        ieee8021PSFPAdminIPV
            Integer32,
        ieee8021PSFPOperIPV
            Integer32,
        ieee8021PSFPGateClosedDueToInvalidRxEnable
            TruthValue,
        ieee8021PSFPGateClosedDueToInvalidRx
            TruthValue,
        ieee8021PSFPGateClosedDueToOctetsExceededEnable
            TruthValue,
        ieee8021PSFPGateClosedDueToOctetsExceeded
            TruthValue,
    ieee8021PSFPStreamGateEntryRowStatus
            RowStatus
            }

ieee8021PSFPStreamGateInstance OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The StreamGateInstance parameter is an index into the
        StreamGateTable.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.2.1, 8.6.5.4, 12.31.3"
```

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```
    ::= { ieee8021PSFPStreamGateEntry 1}

ieee8021PSFPGateEnabled OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The GateEnabled parameter determines whether the stream gate
        is active (true) or inactive (false).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    DEFVAL { false }
    ::= { ieee8021PSFPStreamGateEntry 2}

ieee8021PSFPAdminGateStates OBJECT-TYPE
    SYNTAX      INTEGER { open(1), closed(2) }
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The administrative value of the GateStates parameter for the
        stream gate.
        The open value indicates that the gate is open,
        the closed value indicates that the gate is closed.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 3 }

ieee8021PSFPOperGateStates OBJECT-TYPE
    SYNTAX      INTEGER { open(1), closed(2) }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the GateStates parameter for the
        stream gate.
        The open value indicates that the gate is open,
        the closed value indicates that the gate is closed.
"
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 4 }

ieee8021PSFPAdminControlListLength OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The administrative value of the ListMax parameter for the gate.
        The integer value indicates the number of entries (TLVs) in the
        AdminControlList.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 5 }

ieee8021PSFPOperControlListLength OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the ListMax parameter for the gate.
        The integer value indicates the number of entries (TLVs) in the
        OperControlList."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 6 }

ieee8021PSFPAdminControlList OBJECT-TYPE
    SYNTAX      OCTET STRING
    MAX-ACCESS  read-create
```

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```
    STATUS        current
    DESCRIPTION
        "The administrative value of the ControlList parameter for the gate.
        The octet string value represents the contents of the control list as
        an ordered list of entries, each encoded as a TLV, as follows.
        The first octet  of each TLV is interpreted as an
        unsigned integer representing a gate operation name:
            0: SetGateAndIPV
            1-255: Reserved for future gate operations

        The second octet of the TLV is the length field,
        interpreted as an unsigned integer, indicating the number of
        octets of the value that follows the length. A length of
        zero indicates that there is no value
        (i.e., the gate operation has no parameters).

        The third through (3 + length -1)th octets encode the
        parameters of the gate operation, in the order that they
        appear in the definition of the operation in Table 8-4.
        Three parameter types are defined:
        The first parameter is a StreamGateState value; the second
        parameter is an IPV value; the third parameter is a
        TimeInterval value; and the fourth parameter is an
        IntervalOctetMax value. IntervalOctetMax is optional.

        - StreamGateState:
            A GateState parameter is encoded in a single octet, and
            is interpreted as an integer value.
            The value 1 indicates open; the value 2 indicates closed.

        - IPV:
            An IPV is encoded in four octets as a 32-bit
            signed integer. A negative denotes the null value;
            zero or positive values denote internal priority values.

        - TimeInterval:
            A TimeInterval is encoded in 4 octets as a 32-bit
            unsigned integer, representing a number of nanoseconds.
            The first octet encodes the most significant 8 bits of the
            integer, and the fourth octet encodes the least
            significant 8 bits.
        - IntervalOctetMax:
            An integer representing the maximum number of MSDU octets
            that are permitted to pas pass the gate during the specified
            TimeInterval. If this parameter is omitted, there is
            no maximum.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 7 }

ieee8021PSFPOperControlList OBJECT-TYPE
    SYNTAX      OCTET STRING
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the ControlList parameter for the gate.
        The octet string value represents the contents of the control list as
        an ordered list of entries, each encoded as a TLV, as follows.
        The first octet  of each TLV is interpreted as an
        unsigned integer representing a gate operation name:
            0: SetGateAndIPV
            1-255: Reserved for future gate operations

        The second octet of the TLV is the length field,
        interpreted as an unsigned integer, indicating the number of
        octets of the value that follows the length. A length of
        zero indicates that there is no value
        (i.e., the gate operation has no parameters).

        The third through (3 + length -1)th octets encode the
```

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```
          parameters of the gate operation, in the order that they
          appear in the definition of the operation in Table 8-4.
          Three parameter types are defined:
          The first parameter is a StreamGateState value; the second
          parameter is an IPV value; the third parameter is a
          TimeInterval value; and the fourth parameter is an
          IntervalOctetMax value. IntervalOctetMax is optional.

            - StreamGateState:
              A GateState parameter is encoded in a single octet, and
              is interpreted as an integer value.
              The value 1 indicates open; the value 2 indicates closed.

            - IPV:
              An IPV is encoded in four octets as a 32-bit
              signed integer. A negative value denotes the null value;
              zero and positive values denote internal priority values.

            - TimeInterval:
              A TimeInterval is encoded in 4 octets as a 32-bit
              unsigned integer, representing
              a number of nanoseconds. The first octet encodes the
              most significant 8 bits of the integer, and the fourth
              octet encodes the least significant 8 bits.
            - IntervalOctetMax:
              An integer representing the maximum number of MSDU octets
              that are permitted to pas pass the gate during the specified
              TimeInterval. If this parameter is omitted, there is
              no maximum.
              "
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 8 }

ieee8021PSFPAdminCycleTimeNumerator OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The administrative value of the numerator of the CycleTime
        parameter for the gate.
        The numerator and denominator together represent the cycle time as
        a rational number of seconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 9 }

ieee8021PSFPAdminCycleTimeDenominator OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The administrative value of the denominator of the
        CycleTime parameter for the gate.
        The numerator and denominator together represent the cycle time as
        a rational number of seconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 10 }

ieee8021PSFPOperCycleTimeNumerator OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the numerator of the
        CycleTime parameter for the gate.
        The numerator and denominator together represent the cycle
        time as a rational number of seconds."
```

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```
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 11 }

ieee8021PSFPOperCycleTimeDenominator OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the denominator of the
        CycleTime parameter for the gate.
        The numerator and denominator together represent the
        cycle time as a rational number of seconds."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 12 }

ieee8021PSFPAdminCycleTimeExtension OBJECT-TYPE
    SYNTAX      Unsigned32
    UNITS       "nanoseconds"
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The administrative value of the CycleTimeExtension
        parameter for the gate.
        The value is an unsigned integer number of nanoseconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 13 }

ieee8021PSFPOperCycleTimeExtension OBJECT-TYPE
    SYNTAX      Unsigned32
    UNITS       "nanoseconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the CycleTimeExtension
        parameter for the gate.
        The value is an unsigned integer number of nanoseconds."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 14 }

ieee8021PSFPAdminBaseTime OBJECT-TYPE
    SYNTAX      IEEE8021STPTPtimeValue
    UNITS       "PTP time"
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The administrative value of the BaseTime parameter for the gate.
        The value is a representation of a PTPtime value,
        consisting of a 48-bit integer
        number of seconds and a 32-bit integer number of nanoseconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 15 }

ieee8021PSFPOperBaseTime OBJECT-TYPE
    SYNTAX      IEEE8021STPTPtimeValue
    UNITS       "PTP time"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operationsl operational value of the BaseTime parameter for the gate.
        The value is a representation of a PTPtime value,
        consisting of a 48-bit integer
        number of seconds and a 32-bit integer number of nanoseconds."
    REFERENCE   "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 16 }

ieee8021PSFPConfigChange OBJECT-TYPE
```

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```
    SYNTAX        TruthValue
    MAX-ACCESS    read-create
    STATUS        current
    DESCRIPTION
        "The ConfigChange parameter signals the start of a
        configuration change for the gate
        when it is set to TRUE. This should only be done
        when the various administrative parameters
        are all set to appropriate values."
    REFERENCE     "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 17 }

ieee8021PSFPConfigChangeTime OBJECT-TYPE
    SYNTAX        IEEE8021STPTPtimeValue
    UNITS         "PTP time"
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The PTPtime at which the next config change is scheduled to occur.
        The value is a representation of a PTPtime value,
        consisting of a 48-bit integer
        number of seconds and a 32-bit integer number of nanoseconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE     "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 18 }

    ieee8021PSFPTickGranularity OBJECT-TYPE
    SYNTAX        Unsigned32
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The granularity of the cycle time clock, represented as an
        unsigned number of tenths of nanoseconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE     "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 19 }

 ieee8021PSFPCurrentTime OBJECT-TYPE
    SYNTAX        IEEE8021STPTPtimeValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The current time, in PTPtime, as maintained by the local system.
        The value is a representation of a PTPtime value,
        consisting of a 48-bit integer
        number of seconds and a 32-bit integer number of nanoseconds."
    REFERENCE     "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 20 }

 ieee8021PSFPConfigPending OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The value of the ConfigPending state machine variable.
        The value is TRUE if a configuration change is in progress
        but has not yet completed."
    REFERENCE     "8.6.8.4, 8.6.9.4, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 21 }

 ieee8021PSFPConfigChangeError OBJECT-TYPE
    SYNTAX        Counter64
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "A counter of the number of times that a re-configuration
        of the traffic schedule has been requested with the old
        schedule still running and the requested base time was
```

```
        in the past."
    REFERENCE    "8.6.8.4, 8.6.9.3, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 23 }

ieee8021PSFPAdminIPV OBJECT-TYPE
    SYNTAX       Integer32 (-1..2147483647)
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "The administrative value of the IPV parameter for the gate.
        A value of -1 denotes the null value.
        "
    REFERENCE    "8.6.5.4, 8.6.10, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 24 }

ieee8021PSFPOperIPV OBJECT-TYPE
    SYNTAX       Integer32 (-1..2147483647)
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "The operational value of the IPV parameter for the gate.
        A value of -1 denotes the null value.
        "
    REFERENCE    "8.6.5.4, 8.6.10, 12.31.3"
    ::= { ieee8021PSFPStreamGateEntry 25 }

ieee8021PSFPGateClosedDueToInvalidRxEnable OBJECT-TYPE
    SYNTAX       TruthValue
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "The PSFPGateClosedDueToInvalidRxEnable object contains
        a Boolean value that indicates whether the
        GateClosedDueToInvalidRx function is enabled (TRUE) or
        disabled (FALSE).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE    "8.6.5.4, 12.31.3"
    DEFVAL { false }
    ::= { ieee8021PSFPStreamGateEntry 26}

ieee8021PSFPGateClosedDueToInvalidRx OBJECT-TYPE
    SYNTAX       TruthValue
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "The PSFPGateClosedDueToInvalidRx object contains
        a Boolean value that indicates whether, if the
        GateClosedDueToInvalidRx function is enabled,
        all frames are to be discarded (TRUE) or not (FALSE).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE    "8.6.5.4, 12.31.3"
    DEFVAL { false }
    ::= { ieee8021PSFPStreamGateEntry 27}

ieee8021PSFPGateClosedDueToOctetsExceededEnable OBJECT-TYPE
    SYNTAX       TruthValue
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "The PSFPGateClosedDueToOctetsExceededEnable object contains
        a Boolean value that indicates whether the
        GateClosedDueToOctetsExceeded function is enabled (TRUE)
        or disabled (FALSE).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE    "8.6.5.4, 12.31.3"
    DEFVAL { false }
```

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```
       ::= { ieee8021PSFPStreamGateEntry 28}

ieee8021PSFPGateClosedDueToOctetsExceeded OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The PSFPGateClosedDueToOctetsExceeded parameter contains
        a Boolean value that indicates whether, if the
        GateClosedDueToOctetsExceeded function is enabled, all
        frames are to be discarded (TRUE) or not (FALSE).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.4, 12.31.3"
    DEFVAL { false }
    ::= { ieee8021PSFPStreamGateEntry 29}


ieee8021PSFPStreamGateEntryRowStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The status of the row.

         The writable columns in a row cannot be changed if the row
         is active. All columns MUST have a valid value before a row
         can be activated.
        "
    ::= { ieee8021PSFPStreamGateEntry 30 }



-- ============================================================
-- The ieee8021PSFPFlowMeterParameters subtree
-- This subtree defines the objects necessary for the management
-- of the flow meters for IEEE Std 802.1Q.
-- ============================================================

-- ============================================================
-- the ieee8021PSFPFlowMeterTable
-- ============================================================

ieee8021PSFPFlowMeterTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021PSFPFlowMeterEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains the per-meter instance
        manageable parameters for flow meters.

        For a given Bridge component, a row in the table exists for
        each flow meter instance.

        All writable objects in this table must be
        persistent over power up restart/reboot."
    REFERENCE   "8.6.5.5, 12.31.4"
    ::= { ieee8021PSFPFlowMeterParameters 1 }

ieee8021PSFPFlowMeterEntry OBJECT-TYPE
    SYNTAX      Ieee8021PSFPFlowMeterEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects that contains the manageable parameters for
        flow meters for a Bridge component."
    INDEX  { ieee8021BridgeBaseComponentId,
             ieee8021PSFPFlowMeterInstance
           }
    ::= { ieee8021PSFPFlowMeterTable 1 }
```

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```
Ieee8021PSFPFlowMeterEntry ::=
    SEQUENCE {
        ieee8021PSFPFlowMeterInstance
            Unsigned32,
        ieee8021PSFPFlowMeterCIR
            Unsigned32,
        ieee8021PSFPFlowMeterCBS
            Unsigned32,
        ieee8021PSFPFlowMeterEIR
            Unsigned32,
        ieee8021PSFPFlowMeterEBS
            Unsigned32,
        ieee8021PSFPFlowMeterCF
            Integer32,
        ieee8021PSFPFlowMeterCM
            INTEGER,
        ieee8021PSFPFlowMeterDropOnYellow
            TruthValue,
        ieee8021PSFPFlowMeterMarkAllFramesRedEnable
            TruthValue,
        ieee8021PSFPFlowMeterMarkAllFramesRed
            TruthValue,
        ieee8021PSFPFlowMeterEntryRowStatus
            RowStatus
             }

ieee8021PSFPFlowMeterInstance OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The FlowMeterInstance parameter is an index into the
        FlowMeterTable.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.5, 12.31.4"
    ::= { ieee8021PSFPFlowMeterEntry 1}

ieee8021PSFPFlowMeterCIR OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The FlowMeterCIR parameter contains an integer value that
        represents the CIR value for the flow meter, in bit/second.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.5, 12.31.4"
    ::= { ieee8021PSFPFlowMeterEntry 2}

ieee8021PSFPFlowMeterCBS OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The FlowMeterCBS parameter contains an integer value that
        represents the CBS value for the flow meter, in octets.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.5, 12.31.4"
    ::= { ieee8021PSFPFlowMeterEntry 3}

ieee8021PSFPFlowMeterEIR OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The FlowMeterEIR parameter contains an integer value that
        represents the EIR value for the flow meter, in bit/second.
```

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```
        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.5, 12.31.4"
    ::= { ieee8021PSFPFlowMeterEntry 4}


ieee8021PSFPFlowMeterEBS OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The FlowMeterEBS parameter contains an integer value that
        represents the EBS value for the flow meter, in octets.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.5, 12.31.4"
    ::= { ieee8021PSFPFlowMeterEntry 5}


ieee8021PSFPFlowMeterCF OBJECT-TYPE
    SYNTAX      Integer32 (0..1)
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The FlowMeterCF parameter contains an integer value that
        represents the CF value for the flow meter, as an integer
        value 0 or 1.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.5, 12.31.4"
    ::= { ieee8021PSFPFlowMeterEntry 6}


ieee8021PSFPFlowMeterCM OBJECT-TYPE
    SYNTAX      INTEGER  {colorBlind(1), colorAware(2)}
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The FlowMeterCM parameter contains an integer value that
        represents the CM value for the flow meter, as an enumerated
        value indicating colorBlind(1) or colorAware(2).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.5, 12.31.4"
    ::= { ieee8021PSFPFlowMeterEntry 7}


ieee8021PSFPFlowMeterDropOnYellow OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The FlowMeterDropOnYellow parameter contains a Boolean value that
        indicates whether yellow frames are dropped (TRUE) or
        have drop_eligible set to TRUE (FALSE).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.5, 12.31.4"
    ::= { ieee8021PSFPFlowMeterEntry 8}

ieee8021PSFPFlowMeterMarkAllFramesRedEnable OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The FlowMeterMarkAllFramesRedEnable parameter contains
        a Boolean value that indicates whether the MarkAllFramesRed
        function is enabled (TRUE) or disabled (FALSE).

        The value of this object MUST be retained across
        reinitializations of the management system."
```

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```
    REFERENCE   "8.6.5.5, 12.31.4"
    DEFVAL { false }
    ::= { ieee8021PSFPFlowMeterEntry 9}

ieee8021PSFPFlowMeterMarkAllFramesRed OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The FlowMeterMarkAllFramesRed parameter contains
        a Boolean value that indicates whether, if the
        MarkAllFramesRed function is enabled, all frames are to
        be discarded (TRUE) or not (FALSE).

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.5.5, 12.31.4"
    DEFVAL { false }
    ::= { ieee8021PSFPFlowMeterEntry 10}

ieee8021PSFPFlowMeterEntryRowStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The status of the row.

         The writable columns in a row cannot be changed if the row
         is active. All columns MUST have a valid value before a row
         can be activated.
        "
    ::= { ieee8021PSFPFlowMeterEntry 11 }




-- ============================================================
-- The ieee8021PSFPStreamParameters subtree
-- This subtree defines the objects necessary for the management
-- of the flow meters for IEEE Std 802.1Q.
-- ============================================================


-- ============================================================
-- the ieee8021PSFPStreamParameterTable
-- ============================================================

ieee8021PSFPStreamParameterTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021PSFPStreamParameterEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains per-Bridge component
        manageable parameters for PSFP.

        A row in the table exists for each Bridge component.

        All writable objects in this table must be
        persistent over power up restart/reboot."
    REFERENCE   "8.6.5.2, 12.31.1"
    ::= { ieee8021PSFPStreamParameters 1 }

ieee8021PSFPStreamParameterEntry OBJECT-TYPE
    SYNTAX      Ieee8021PSFPStreamParameterEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects that contains the manageable parameters for
        flow meters for a Bridge component."
    INDEX  { ieee8021BridgeBaseComponentId
            }
    ::= { ieee8021PSFPStreamParameterTable 1 }
```

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```
Ieee8021PSFPStreamParameterEntry ::=
    SEQUENCE {
        ieee8021PSFPMaxStreamFilterInstances
            Unsigned32,
        ieee8021PSFPMaxStreamGateInstances
            Unsigned32,
        ieee8021PSFPMaxFlowMeterInstances
            Unsigned32,
        ieee8021PSFPSupportedListMax
            Unsigned32,
        ieee8021PSFPSupportedCycleMaxNumerator
            Unsigned32,
        ieee8021PSFPSupportedCycleMaxDenominator
            Unsigned32,
        ieee8021PSFPSupportedIntervalMax
            Unsigned32
            }

ieee8021PSFPMaxStreamFilterInstances OBJECT-TYPE
    SYNTAX       Unsigned32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The MaxStreamFilterInstances parameter defines the
        maximum number of stream filter instances that are
        supported by this Bridge component."
    REFERENCE    "8.6.5.3, 12.31.2"
    ::= { ieee8021PSFPStreamParameterEntry 1}

ieee8021PSFPMaxStreamGateInstances OBJECT-TYPE
    SYNTAX       Unsigned32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The MaxStreamGateInstances parameter defines the
        maximum number of stream gate instances that are
        supported by this Bridge component."
    REFERENCE    "8.6.5.4, 12.31.3"
    ::= { ieee8021PSFPStreamParameterEntry 2}

ieee8021PSFPMaxFlowMeterInstances OBJECT-TYPE
    SYNTAX       Unsigned32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The MaxFlowMeterInstances parameter defines the
        maximum number of flow meter instances that are
        supported by this Bridge component."
    REFERENCE    "8.6.5.5, 12.31.4"
    ::= { ieee8021PSFPStreamParameterEntry 3}

ieee8021PSFPSupportedListMax OBJECT-TYPE
    SYNTAX       Unsigned32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The SupportedListMax parameter defines the
        The maximum value supported by this Bridge component of
        the AdminControlListLength and
        OperControlListLength parameters."
    REFERENCE    "8.6.5.4, 12.31.3"
    ::= { ieee8021PSFPStreamParameterEntry 4}

ieee8021PSFPSupportedCycleMaxNumerator OBJECT-TYPE
    SYNTAX       Unsigned32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The numerator of the SupportedCycleMax parameter for
        the Bridge component. The numerator and denominator
        together represent the maximum value supported of
        the AdminCycleTime and OperCycleTime parameters"
```

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```
    REFERENCE    "12.31.1.7"
    ::= { ieee8021PSFPStreamParameterEntry 5}

ieee8021PSFPSupportedCycleMaxDenominator OBJECT-TYPE
    SYNTAX       Unsigned32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The denominator of the SupportedCycleMax parameter for
        the Bridge component. The numerator and denominator
        together represent the maximum value supported of
        the AdminCycleTime and OperCycleTime parameters"
    REFERENCE    "12.31.1.7"
    ::= { ieee8021PSFPStreamParameterEntry 6}

ieee8021PSFPSupportedIntervalMax OBJECT-TYPE
    SYNTAX       Unsigned32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The maximum value supported by this Bridge component
        of the TimeIntervalValue parameter."
    REFERENCE    "12.31.1.8"
    ::= { ieee8021PSFPStreamParameterEntry 7}


-- ================================================================
-- IEEE8021 PSFP MIB - Conformance Information
-- ================================================================

ieee8021PSFPCompliances
    OBJECT IDENTIFIER ::= { ieee8021PSFPConformance 1 }
ieee8021PSFPGroups
    OBJECT IDENTIFIER ::= { ieee8021PSFPConformance 2 }

-- ================================================================
-- units of conformance
-- ================================================================


-- ================================================================
-- the ieee8021PSFPObjectsGroup group
-- ================================================================

ieee8021PSFPObjectsGroup OBJECT-GROUP
    OBJECTS {
        ieee8021PSFPStreamHandleSpec,
        ieee8021PSFPPrioritySpec,
        ieee8021PSFPStreamGateInstanceID,
        ieee8021PSFPFilterSpecificationList,
        ieee8021PSFPMatchingFramesCount,
        ieee8021PSFPPassingFramesCount,
        ieee8021PSFPNotPassingFramesCount,
        ieee8021PSFPPassingSDUCount,
        ieee8021PSFPNotPassingSDUCount,
        ieee8021PSFPREDFramesCount,
        ieee8021PSFPStreamBlockedDueToOversizeFrameEnable,
        ieee8021PSFPStreamBlockedDueToOversizeFrame,
        ieee8021PSFPStreamFilterEntryRowStatus,
        ieee8021PSFPGateEnabled,
        ieee8021PSFPAdminGateStates,
        ieee8021PSFPOperGateStates,
        ieee8021PSFPAdminControlListLength,
        ieee8021PSFPOperControlListLength,
        ieee8021PSFPAdminControlList,
        ieee8021PSFPOperControlList,
        ieee8021PSFPAdminCycleTimeNumerator,
        ieee8021PSFPAdminCycleTimeDenominator,
        ieee8021PSFPOperCycleTimeNumerator,
        ieee8021PSFPOperCycleTimeDenominator,
        ieee8021PSFPAdminCycleTimeExtension,
        ieee8021PSFPOperCycleTimeExtension,
        ieee8021PSFPAdminBaseTime,
```

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```
            ieee8021PSFPOperBaseTime,
            ieee8021PSFPConfigChange,
            ieee8021PSFPConfigChangeTime,
            ieee8021PSFPTickGranularity,
            ieee8021PSFPCurrentTime,
            ieee8021PSFPConfigPending,
            ieee8021PSFPConfigChangeError,
            ieee8021PSFPAdminIPV,
            ieee8021PSFPOperIPV,
            ieee8021PSFPGateClosedDueToInvalidRxEnable,
            ieee8021PSFPGateClosedDueToInvalidRx,
            ieee8021PSFPGateClosedDueToOctetsExceededEnable,
            ieee8021PSFPGateClosedDueToOctetsExceeded,
            ieee8021PSFPStreamGateEntryRowStatus,
            ieee8021PSFPFlowMeterCIR,
            ieee8021PSFPFlowMeterCBS,
            ieee8021PSFPFlowMeterEIR,
            ieee8021PSFPFlowMeterEBS,
            ieee8021PSFPFlowMeterCF,
            ieee8021PSFPFlowMeterCM,
            ieee8021PSFPFlowMeterDropOnYellow,
            ieee8021PSFPFlowMeterMarkAllFramesRedEnable,
            ieee8021PSFPFlowMeterMarkAllFramesRed,
            ieee8021PSFPFlowMeterEntryRowStatus,
            ieee8021PSFPMaxStreamFilterInstances,
            ieee8021PSFPMaxStreamGateInstances,
            ieee8021PSFPMaxFlowMeterInstances,
            ieee8021PSFPSupportedListMax,
            ieee8021PSFPSupportedCycleMaxNumerator,
            ieee8021PSFPSupportedCycleMaxDenominator,
            ieee8021PSFPSupportedIntervalMax
            }

    STATUS      current
    DESCRIPTION
        "Objects that allow management of PSFP."
    ::= { ieee8021PSFPGroups 1 }


-- ============================================================
-- compliance statements
-- ============================================================

ieee8021PSFPCompliance MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION
        "The compliance statement for devices supporting
        PSFP.

        Support of the objects defined in this MIB module
        also requires support of the IEEE8021-BRIDGE-MIB; the
        provisions of 17.3.2 apply to implementations claiming
        support of this MIB. "

    MODULE -- this module
        MANDATORY-GROUPS {
            ieee8021PSFPObjectsGroup
        }

    ::= { ieee8021PSFPCompliances 1 }

END
```

35. Stream Reservation Protocol (SRP)

35.2 Definition of the MSRP application

35.2.2 Definition of MRP elements

35.2.2.8 MSRP FirstValue definitions (Stream reservations, original)

35.2.2.8.4 TSpec

Change item b) of 35.2.2.8.4 as follows:

b) **MaxIntervalFrames:** The 16-bit unsigned MaxIntervalFrames component is used to allocate resources and adjust queue selection parameters in order to supply the QoS requested by an MSRP Talker Declaration. It represents the maximum number of frames that the Talker may transmit can initiate in one classMeasurementInterval (34.3).

46. Time-Sensitive Networking (TSN) configuration

46.2 User/network configuration information

46.2.3 Talker

46.2.3.5 TrafficSpecification

46.2.3.5.2 MaxFramesPerInterval

Change 46.2.3.5.2 as follows:

MaxFramesPerInterval specifies the maximum number of ~~frames~~ frame transmissions that the Talker can ~~transmit~~ initiate in one Interval.

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48. YANG Data Models

48.2 IEEE 802.1Q YANG models

48.2.1 VLAN Bridge components model

Replace Figure 48-5 with the figure on the following page:

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```
interface (name)
string      name;                                        // r-w
string      description;                                 // r-w
if-type     type;                                        // r-w
bool        enabled;                                     // r-w
enum        link-up-down-trap-enable;                    // r-w
enum        admin-status;                                // r
enum        oper-status;                                 // r
date-time   last-change;                                 // r
int32       if-index;                                    // r
address     phys-address;                                // r
if-ref    * higher-layer-if;                             // r
if-ref    * lower-layer-if;                              // r
gauge64     speed;                                       // r
```

```
bridge-port
leafref           bridge-name;                           // r-w
leafref           component-name;                        // r-w
vlan-index-type   pvid;                                  // (12.10.1, 6.9)          r-w
priority-type     default-priority;                      // (12.6.2, 6.6)           r-w
struct            priority-regeneration-table;           // (12.6.2, 6.9.4)         r-w
enum              pcp-selection;                         // (12.6.2, 6.9.3)         r-w
struct            pcp-decoding-table;                    // (12.6.2, 6.9.3)         r-w
struct            pcp-encoding-table;                    // (12.6.2, 6.9.3)         r-w
bool              use-dei;                               // (12.6.2, 6.9.3)         r-w
bool              drop-encoding;                         // (12.6.2, 8.6.6)         r-w
bool              service-access-priority-selection;     // (12.6.2, 6.13)          r-w
struct            service-access-priority;               // (12.6.2, 6.13.1)        r-w
struct            traffic-class;                         // (12.6.3, 8.6.6)         r-w
struct            transmission-selection-algorithm-table; // (12.20.2, 8.6.8)       r-w
enum              acceptable-frame;                      // (12.10.1.3, 6.9)        r-w
bool              enable-ingress-filtering;              // (12.10.1.4, 8.6.2)      r-w
bool              restricted-vlan-registration;          // (12.10.1.6, 11.2.3.2.3) r-w
bool              enable-vid-translation-table;          // (12.10.1.8, 6.9)        r-w
bool              enable-egress-vid-translation-table;   // (12.10.1.9, 6.9)        r-w
struct            protocol-group-vid-set;                // (12.10.1.7, 6.12)       r-w
enum              admin-point-to-point;                  // (12.4.2, 6.8.2)         r-w
bool              protocol-based-vlan-classification;    // (6.12, 5.4.1.2)         r
uint16            max-vid-set-entries;                   // (12.10.1.3)             r
port-number-type  port-number;                           // (13.25, 12.4.2, 12.3.i) r
enum              port-type;                             // (12.4.2.1)              r
mac-address       address;                               // (12.4.2)                r
bits              capabilities;                          // (12.4.2, 12.10.1.1.3)   r
bits              type-capabilities;                     // (12.4.2)                r
bool              external;                              // (12.4.2)                r
bool              oper-point-to-point;                   // (12.4.2, 6.8.3)         r
octets            media-dependent-overhead;              // (12.4.2, 8.6.8.4)       r
```

```
vid-translations (local-vid)
vlanid    local-vid;    // (12.10.1.8, 6.9) r-w
vlanid    relay-vid;    // (12.10.1.8, 6.9) r-w
```

```
egress-vid-translations (relay-vid)
vlanid    relay-vid;    // (12.10.1.9, 6.9) r-w
vlanid    local-vid;    // (12.10.1.9, 6.9) r-w
```

```
statistics
date-time   discontinuity-time;                                                      // r
counter64   in-octets, in-unicast-pkts, in-broadcast-pkts, in-multicast-pkts;        // r
counter64   in-discards, in-errors, in-unknown-protos, ;                             // r
counter64   out-octets, out-unicast-pkts, out-broadcast-pkts, out-multicast-pkts;    // r
counter64   out-discards, out-errors;                                                // r
```

```
bridge-port-statistics
counter64   delay-exceeded-discards, mtu-exceeded-discards;              // (12.6.1.1.3) r
counter64   frame-rx, octets-rx, frame-tx, octets-tx;                    // (12.6.1.1.3) r
counter64   discard-inbound, forward-outbound, discard-lack-of-buffers;  // (12.6.1.1.3) r
counter64   discard-transit-delay-exceeded, discard-on-error;           // (12.6.1.1.3) r
counter64   discard-on-ingress-filtering;                                // (12.6.1.1.3) r
```

▢ Objects added by this model

Figure 48-5—Bridge Port model

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48.2.2 Two-Port MAC Relay (TPMR) model

Replace Figure 48-7 with the following figure:

Figure 48-7—TPMR Port model

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48.2.4 Provider Bridge model

Replace Figure 48-9 and Figure 48-10 with the figures on the following two pages:

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```
interface (name)
  string      name;                                    // r-w
  string      description;                              // r-w
  if-type     type;                                    // r-w
  bool        enabled;                                 // r-w
  enum        link-up-down-trap-enable;                // r-w
  enum        admin-status;                            // r
  enum        oper-status;                             // r
  date-time   last-change;                             // r
  int32       if-index;                                // r
  address     phys-address;                            // r
  if-ref    * higher-layer-if;                         // r
  if-ref    * lower-layer-if;                          // r
  gauge64     speed;                                   // r

bridge-port
  leafref          bridge-name;                              // r-w
  leafref          component-name;                           // r-w
  vlan-index-type  pvid;                                     // (12.10.1, 6.9)          r-w
  priority-type    default-priority;                         // (12.6.2, 6.6)           r-w
  struct           priority-regeneration-table;              // (12.6.2, 6.9.4)         r-w
  enum             pcp-selection;                            // (12.6.2, 6.9.3)         r-w
  struct           pcp-decoding-table;                       // (12.6.2, 6.9.3)         r-w
  struct           pcp-encoding-table;                       // (12.6.2, 6.9.3)         r-w
  bool             use-dei;                                  // (12.6.2, 6.9.3)         r-w
  bool             drop-encoding;                            // (12.6.2, 8.6.6)         r-w
  bool             service-access-priority-selection;        // (12.6.2, 6.13)          r-w
  struct           service-access-priority;                  // (12.6.2, 6.13.1)        r-w
  struct           traffic-class;                            // (12.6.3, 8.6.6)         r-w
  struct           transmission-selection-algorithm-table;   // (12.20.2, 8.6.8)        r-w
  enum             acceptable-frame;                         // (12.10.1.3, 6.9)        r-w
  bool             enable-ingress-filtering;                 // (12.10.1.4, 8.6.2)      r-w
  bool             restricted-vlan-registration;             // (12.10.1.6, 11.2.3.2.3) r-w
  bool             enable-vid-translation-table;             // (12.10.1.8, 6.9)        r-w
  bool             enable-egress-vid-translation-table;      // (12.10.1.9, 6.9)        r-w
  struct           protocol-group-vid-set;                   // (12.10.1.7, 6.12)       r-w
  enum             admin-point-to-point;                     // (12.4.2, 6.8.2)         r-w
  bool             protocol-based-vlan-classification;       // (6.12, 5.4.1.2)         r
  uint16           max-vid-set-entries;                      // (12.10.1.1.3)           r
  port-number-type port-number;                             // (13.25, 12.4.2, 12.3.i) r
  enum             port-type;                                // (12.4.2.1)              r
  mac-address      address;                                  // (12.4.2)                r
  bits             capabilities;                             // (12.4.2, 12.10.1.1.3)   r
  bits             type-capabilities;                        // (12.4.2)                r
  bool             external;                                 // (12.4.2)                r
  bool             oper-point-to-point;                      // (12.4.2, 6.8.3)         r
  octets           media-dependent-overhead;                 // (12.4.2, 8.6.8.4)       r
```

```
vid-translations (local-vid)
  vlanid   local-vid;   // (12.10.1.8, 6.9) r-w
  vlanid   relay-vid;   // (12.10.1.8, 6.9) r-w
```

```
egress-vid-translations (relay-vid)
  vlanid   relay-vid;   // (12.10.1.9, 6.9) r-w
  vlanid   local-vid;   // (12.10.1.9, 6.9) r-w
```

```
cvid-registration (cvid)
  vlanid   cvid;          // (12.13.2.1) r-w
  vlanid   svid;          // (12.13.2.1) r-w
  bool     untagged-pep;  // (12.13.2.1) r-w
  bool     untagged-cep;  // (12.13.2.1) r-w
```

```
service-priority-regeneration (svid)   // (12.13.2)
  int      svid;                          // (12.13.2.6) r-w
  struct   priority-regeneration-table;   // (12.13.2.6) r-w
```

```
statistics
  date-time   discontinuity-time;                                              // r
  counter64   in-octets, in-unicast-pkts, in-broadcast-pkts, in-multicast-pkts;  // r
  counter64   in-discards, in-errors, in-unknown-protos, ;                      // r
  counter64   out-octets, out-unicast-pkts, out-broadcast-pkts, out-multicast-pkts; // r
  counter64   out-discards, out-errors;                                        // r

bridge-port  statistics
  counter64   delay-exceeded-discards, mtu-exceeded-discards;                  // (12.6.1.1.3) r
  counter64   frame-rx, octets-rx, frame-tx, octets-tx;                        // (12.6.1.1.3) r
  counter64   discard-inbound, forward-outbound, discard-lack-of-buffers;      // (12.6.1.1.3) r
  counter64   discard-transit-delay-exceeded, discard-on-error;               // (12.6.1.1.3) r
  counter64   discard-on-ingress-filtering;                                    // (12.6.1.1.3) r
```

☐ Bridge Port model objects   ▨ Objects added by this model

Figure 48-9—Provider Edge Bridge C-VLAN Interface model

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interface (name)

string	name;	// r-w
string	description;	// r-w
if-type	type;	// r-w
bool	enabled;	// r-w
enum	link-up-down-trap-enable;	// r-w
enum	admin-status;	// r
enum	oper-status;	// r
date-time	last-change;	// r
int32	if-index;	// r
address	phys-address;	// r
if-ref	* higher-layer-if;	// r
if-ref	* lower-layer-if;	// r
gauge64	speed;	// r

bridge-port

leafref	bridge-name;	// r-w	
leafref	component-name;	// r-w	
vlan-index-type	pvid;	// (12.10.1, 6.9)	r-w
priority-type	default-priority;	// (12.6.2, 6.6)	r-w
struct	priority-regeneration-table;	// (12.6.2, 6.9.4)	r-w
enum	pcp-selection;	// (12.6.2, 6.9.3)	r-w
struct	pcp-decoding-table;	// (12.6.2, 6.9.3)	r-w
struct	pcp-encoding-table;	// (12.6.2, 6.9.3)	r-w
bool	use-dei;	// (12.6.2, 6.9.3)	r-w
bool	drop-encoding;	// (12.6.2, 8.6.6)	r-w
bool	service-access-priority-selection;	// (12.6.2, 6.13)	r-w
struct	service-access-priority;	// (12.6.2, 6.13.1)	r-w
struct	traffic-class;	// (12.6.3, 8.6.6)	r-w
struct	transmission-selection-algorithm-table;	// (12.20.2, 8.6.8)	r-w
enum	acceptable-frame;	// (12.10.1.3, 6.9)	r-w
bool	enable-ingress-filtering;	// (12.10.1.4, 8.6.2)	r-w
bool	restricted-vlan-registration;	// (12.10.1.6, 11.2.3.2.3)	r-w
bool	enable-vid-translation-table;	// (12.10.1.8, 6.9)	r-w
bool	enable-egress-vid-translation-table;	// (12.10.1.9, 6.9)	r-w
struct	protocol-group-vid-set;	// (12.10.1.7, 6.12)	r-w
enum	admin-point-to-point;	// (12.4.2, 6.8.2)	r-w
bool	protocol-based-vlan-classification;	// (6.12, 5.4.1.2)	r
uint16	max-vid-set-entries;	// (12.10.1.1.3)	r
port-number-type	port-number;	// (13.25, 12.4.2, 12.3.i)	r
enum	port-type;	// (12.4.2.1)	r
mac-address	address;	// (12.4.2)	r
bits	capabilities;	// (12.4.2, 12.10.1.1.3)	r
bits	type-capabilities;	// (12.4.2)	r
bool	external;	// (12.4.2)	r
bool	oper-point-to-point;	// (12.4.2, 6.8.3)	r
octets	media-dependent-overhead;	// (12.4.2, 8.6.8.4)	r

vid-translations (local-vid)

vlanid	local-vid;	// (12.10.1.8, 6.9) r-w
vlanid	relay-vid;	// (12.10.1.8, 6.9) r-w

egress-vid-translations (relay-vid)

vlanid	relay-vid;	// (12.10.1.9, 6.9) r-w
vlanid	local-vid;	// (12.10.1.9, 6.9) r-w

rcap-internal-interface (external-svid)

vlanid	external-svid;	// (12.13.3.2) r-w
port-number-type	internal-port-number;	// (12.13.3.2) r-w
vlanid	internal-svid;	// (12.13.3.2) r-w
enum	internal-interface-type;	// (12.13.3.2) r-w

statistics

date-time	discontinuity-time;	// r
counter64	in-octets, in-unicast-pkts, in-broadcast-pkts, in-multicast-pkts;	// r
counter64	in-discards, in-errors, in-unknown-protos, ;	// r
counter64	out-octets, out-unicast-pkts, out-broadcast-pkts, out-multicast-pkts;	// r
counter64	out-discards, out-errors;	// r

bridge-port statistics

counter64	delay-exceeded-discards, mtu-exceeded-discards;	// (12.6.1.1.3) r
counter64	frame-rx, octets-rx, frame-tx, octets-tx;	// (12.6.1.1.3) r
counter64	discard-inbound, forward-outbound, discard-lack-of-buffers;	// (12.6.1.1.3) r
counter64	discard-transit-delay-exceeded, discard-on-error;	// (12.6.1.1.3) r
counter64	discard-on-ingress-filtering;	// (12.6.1.1.3) r

☐ Bridge Port model objects ☐ Objects added by this model

Figure 48-10—Provider Edge Bridge S-VLAN Interface model

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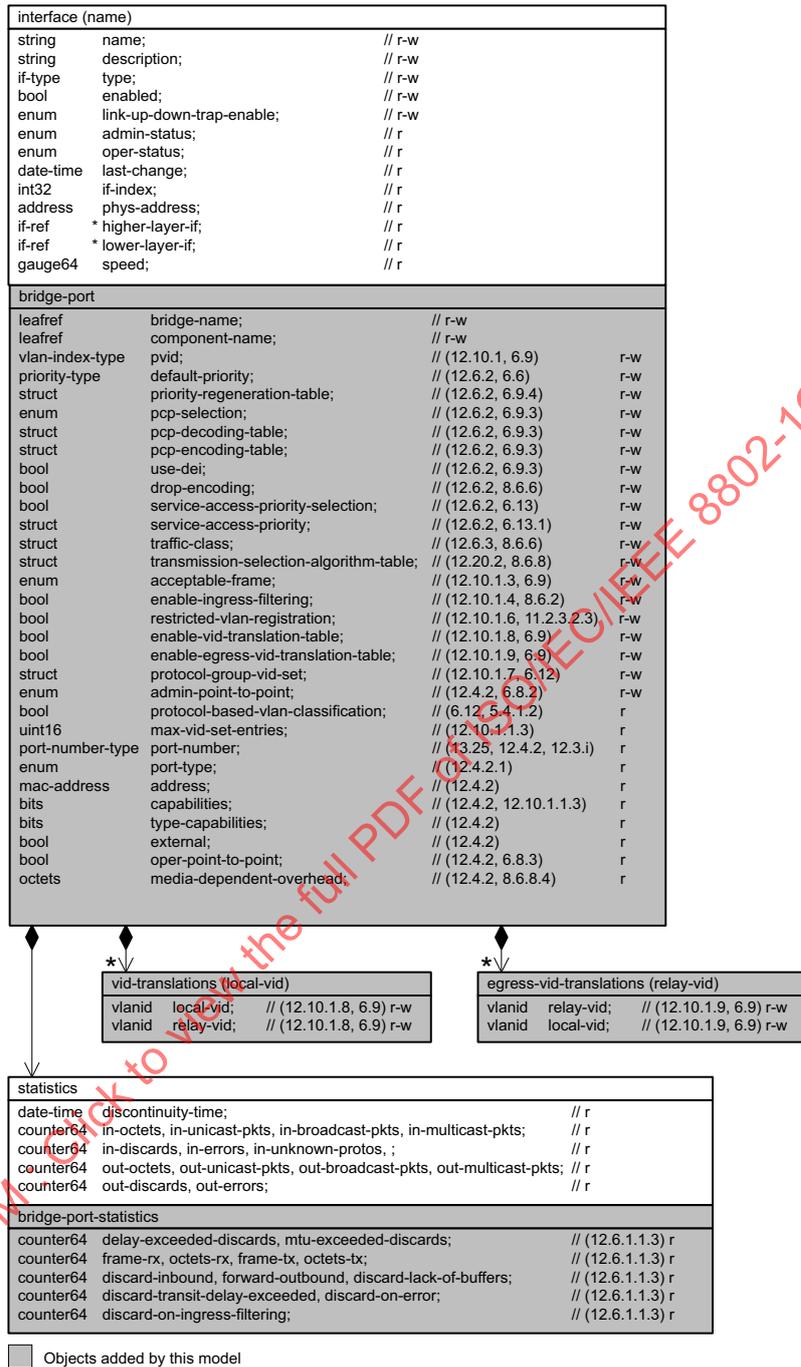
48.2.5 CFM Model

Replace Figure 48-12 with the figure on the following page:

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maintenance-group		
string	maintenance-group-id	// r-w
string	md-id;	// r-w
string	ma-id;	// r-w
struct	service-id;	// (12.14.5.3.2) r-w
ref	bridge-id;	// r-w
ref	component-name	// r-w

mep (mep-id)

port

interface (name)		
string	name;	// r-w
string	description;	// r-w
if-type	type;	// r-w
bool	enabled;	// r-w
enum	link-up-down-trap-enable;	// r-w
enum	admin-status;	// r
enum	oper-status;	// r
date-time	last-change;	// r
int32	if-index;	// r
address	phys-address;	// r
if-ref	* higher-layer-if;	// r
if-ref	* lower-layer-if;	// r
gauge64	speed;	// r

bridge-port			
leafref	bridge-name;	// r-w	
leafref	component-name;	// r-w	
vlan-index-type	pvid;	// (12.10.1, 6.9)	r-w
priority-type	default-priority;	// (12.6.2, 6.6)	r-w
struct	priority-regeneration-table;	// (12.6.2, 6.9.4)	r-w
enum	pcp-selection;	// (12.6.2, 6.9.3)	r-w
struct	pcp-decoding-table;	// (12.6.2, 6.9.3)	r-w
struct	pcp-encoding-table;	// (12.6.2, 6.9.3)	r-w
bool	use-dei;	// (12.6.2, 6.9.3)	r-w
bool	drop-encoding;	// (12.6.2, 8.6.6)	r-w
bool	service-access-priority-selection;	// (12.6.2, 6.13)	r-w
struct	service-access-priority;	// (12.6.2, 6.13.1)	r-w
struct	traffic-class;	// (12.6.3, 8.6.6)	r-w
struct	transmission-selection-algorithm-table;	// (12.20.2, 8.6.8)	r-w
enum	acceptable-frame;	// (12.10.1.3, 6.9)	r-w
bool	enable-ingress-filtering;	// (12.10.1.4, 8.6.2)	r-w
bool	restricted-vlan-registration;	// (12.10.1.6, 11.2.3.2.3)	r-w
bool	enable-vid-translation-table;	// (12.10.1.8, 6.9)	r-w
bool	enable-egress-vid-translation-table;	// (12.10.1.9, 6.9)	r-w
struct	protocol-group-vid-set;	// (12.10.1.7, 6.12)	r-w
enum	admin-point-to-point;	// (12.4.2, 6.8.2)	r-w
bool	protocol-based-vlan-classification;	// (6.12, 5.4.1.2)	r
uint16	max-vid-set-entries;	// (12.10.1.1.3)	r
port-number-type	port-number;	// (13.25, 12.4.2, 12.3.i)	r
enum	port-type;	// (12.4.2.1)	r
mac-address	address;	// (12.4.2)	r
bits	capabilities;	// (12.4.2, 12.10.1.1.3)	r
bits	type-capabilities;	// (12.4.2)	r
bool	external;	// (12.4.2)	r
bool	oper-point-to-point;	// (12.4.2, 6.8.3)	r
octets	media-dependent-overhead;	// (12.4.2, 8.6.8.4)	r

Bridge Port model objects

Objects added by this model

Figure 48-12—CFM MEP model relationships

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48.2.7 Asynchronous Traffic Shaping (ATS) model

Replace Figure 48-16 with the following figure:
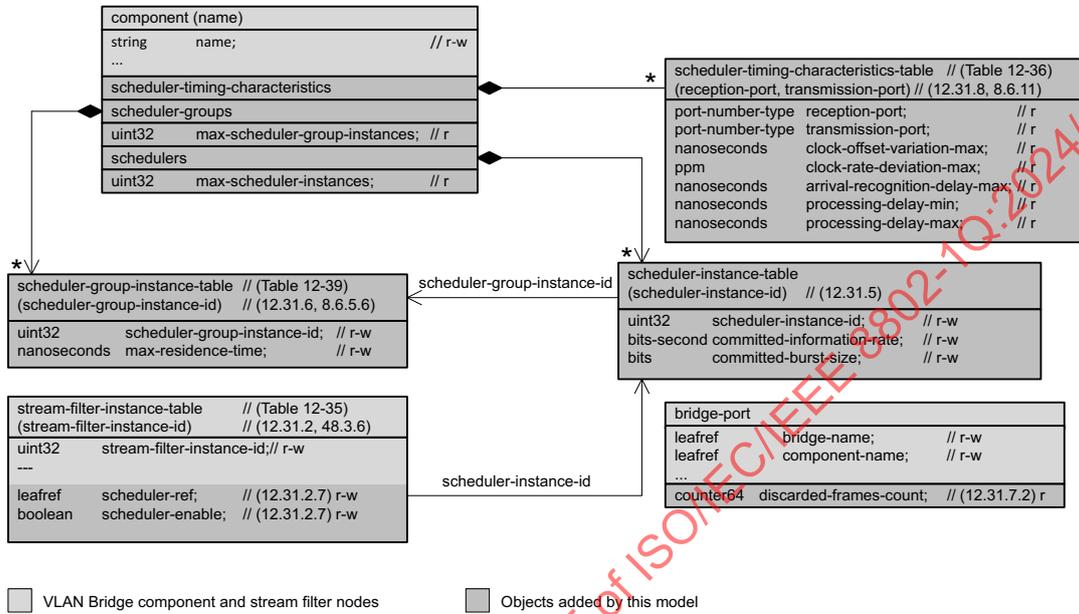
Figure 48-16—Asynchronous Traffic Shaping model

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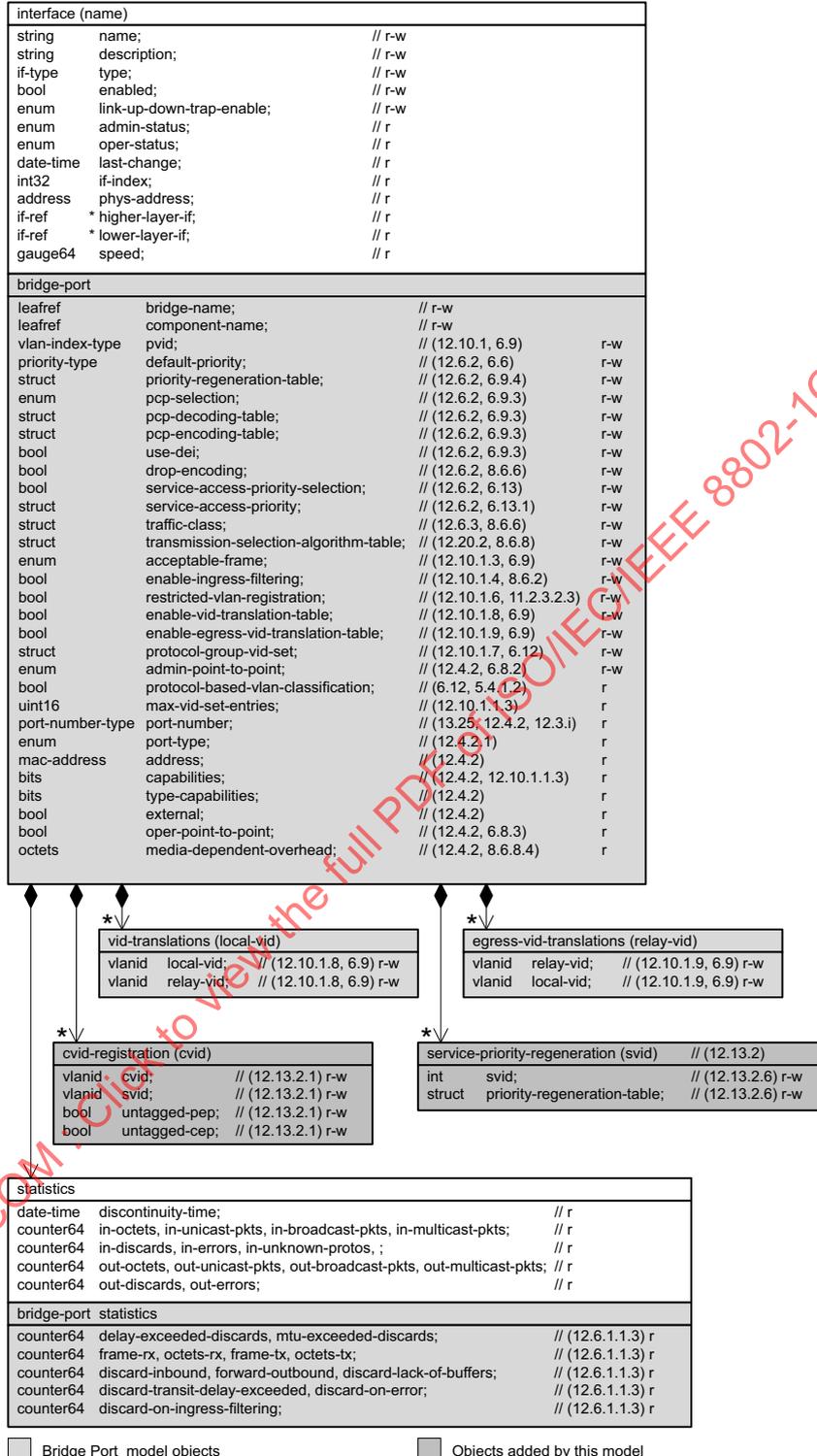
48.2.8 Congestion Isolation (CI) model

Replace Figure 48-17 (as inserted by IEEE Std 802.1Qcz-2023) with the following figure:
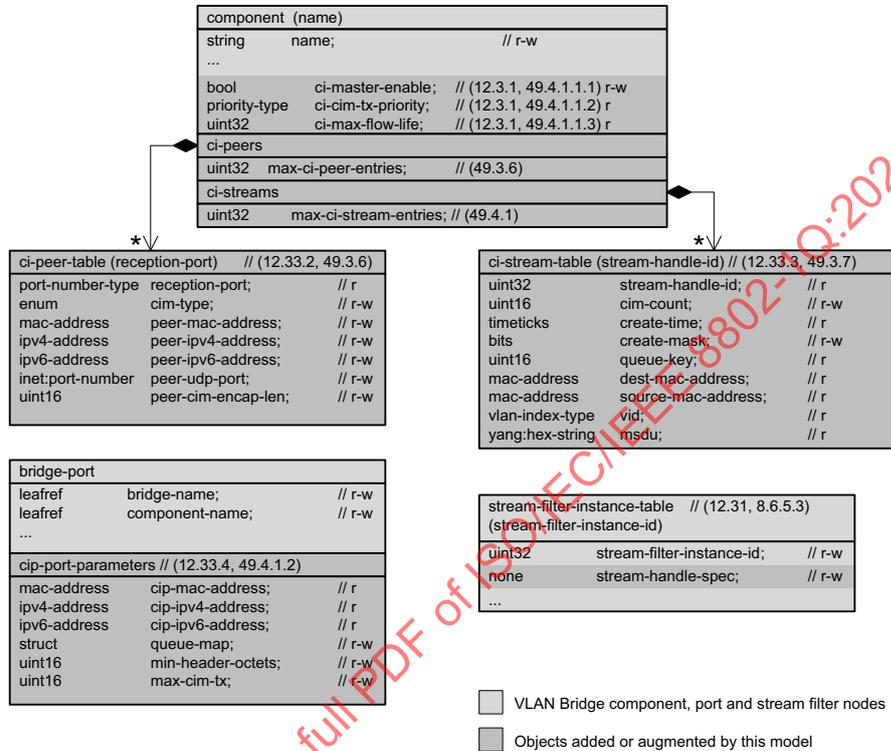
Figure 48-17—Congestion Isolation model

Insert 48.2.9, 48.2.10, and 48.2.11 after 48.2.8 as follows:

48.2.9 Scheduled Traffic model

The Scheduled Traffic model augments the Bridge Port model (48.2.1) with nodes that represent the managed objects contained in the following table:

a)   Gate Parameter Table (12.29.1)

The Scheduled Traffic model is illustrated in Figure 48-18.

There is one gate-parameter-table per Port of a Bridge component. Each object of the table represents parameters that support the enhancements for scheduled traffic (8.6.8.4) as detailed in Table 12-32. The admin-control-list and gate-control-list are sequences of gate-control-entry as specified in 12.29.1.2. Each gate-control-entry consists of an operation name followed by a set of parameters associated with that operation as defined in Table 8-7. The basic operation for Scheduled Traffic is SetGateStates. Additionally, if frame preemption is supported, two additional operations can be performed Set-And-Hold-MAC and Set-And-Release-MAC.

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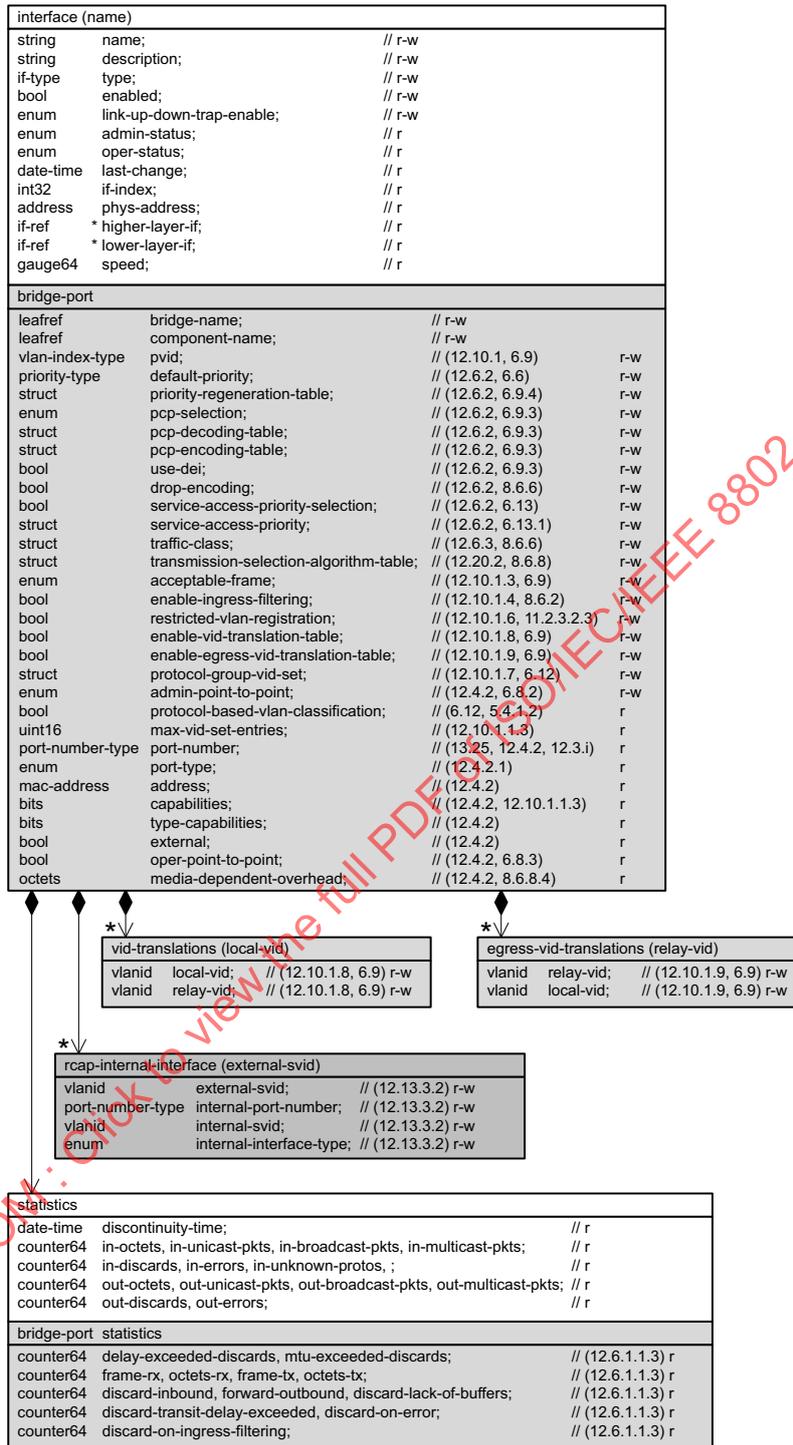
```
interface (name)
string      name;                          // r-w
...
bridge-port
leafref     bridge-name;                   // r-w
leafref     component-name;                // r-w
...
gate-parameter-table  // (12.29.1, 8.6.8.4, 8.6.9)
boolean            gate-enabled                 // r-w
uint8              admin-gate-states            // r-w
uint8              oper-gate-states             // r
rational-grouping  admin-cycle-time             // r-w
rational-grouping  oper-cycle-time              // r
uint32             admin-cycle-time-extension   // r-w
uint32             oper-cycle-time-extension    // r
ptp-time-grouping  admin-base-time              // r-w
ptp-time-grouping  oper-base-time               // r
boolean            config-change                // r-w
ptp-time-grouping  config-change-time           // r
uint32             tick-granularity             // r
ptp-time-grouping  current-time                 // r
boolean            config-pending               // r
counter64          config-change-error          // r
uint32             supported-list-max           // r
rational-grouping  supported-cycle-max          // r
uint32             supported-interval-max       // r
```
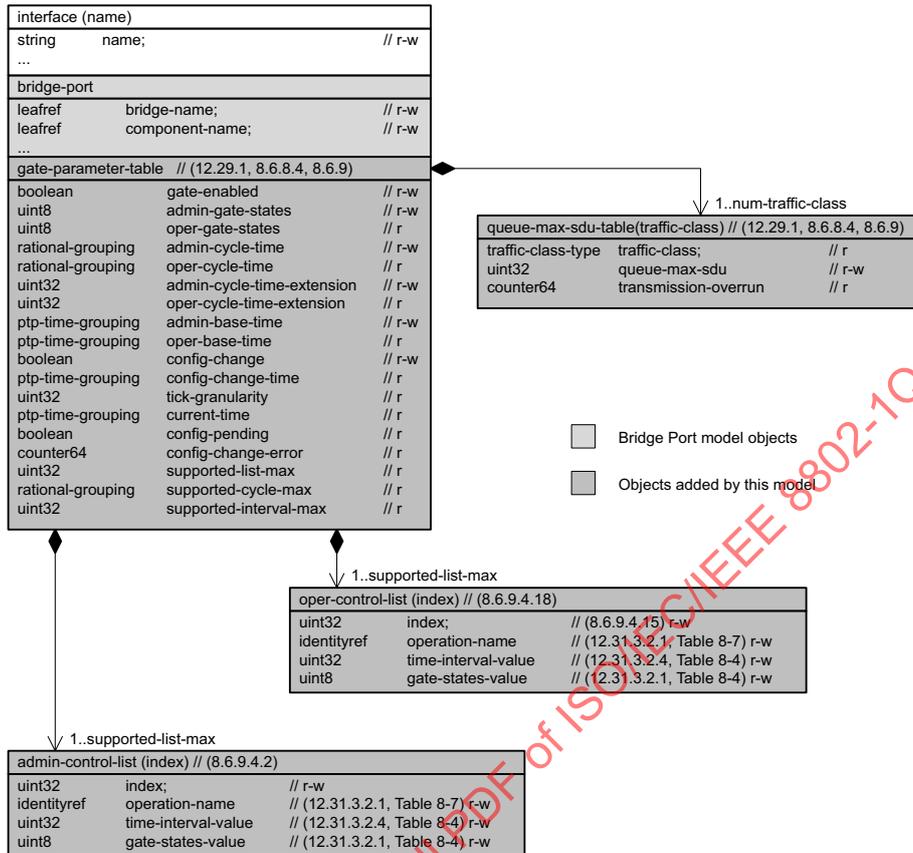
1..num-traffic-class

```
queue-max-sdu-table(traffic-class) // (12.29.1, 8.6.8.4, 8.6.9)
traffic-class-type  traffic-class;            // r
uint32              queue-max-sdu             // r-w
counter64           transmission-overrun      // r
```

▢ Bridge Port model objects

▨ Objects added by this model

1..supported-list-max

```
oper-control-list (index) // (8.6.9.4.18)
uint32       index;              // (8.6.9.4.15) r-w
identityref   operation-name      // (12.31.3.2.1, Table 8-7) r-w
uint32       time-interval-value  // (12.31.3.2.4, Table 8-4) r-w
uint8        gate-states-value    // (12.31.3.2.1, Table 8-4) r-w
```

1..supported-list-max

```
admin-control-list (index) // (8.6.9.4.2)
uint32       index;              // r-w
identityref   operation-name      // (12.31.3.2.1, Table 8-7) r-w
uint32       time-interval-value  // (12.31.3.2.4, Table 8-4) r-w
uint8        gate-states-value    // (12.31.3.2.1, Table 8-4) r-w
```

Figure 48-18—Scheduled Traffic model

48.2.10 Frame Preemption model

The Frame Preemption model augments the Bridge Port model (48.2.1) with nodes that represent the managed objects contained in the following table:

a) Frame Preemption Parameter Table (12.30.1)

The Frame Preemption model is illustrated in Figure 48-19.

There is one Frame Preemption Parameter Table per Port of a Bridge component or end station. Each object of the table represents parameters that support frame preemption (6.7.2) as detailed in Table 12-33.
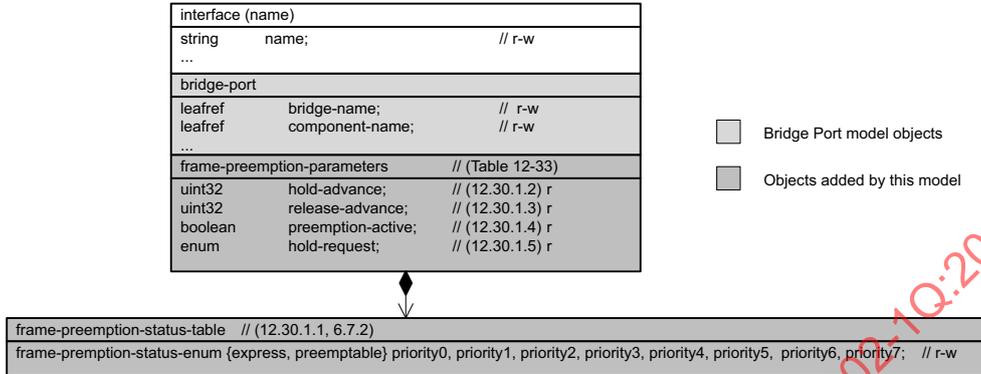
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Figure 48-19—Frame Preemption model

48.2.11 Per-Stream Filtering and Policing model

The Per-Stream Filtering and Policing (PSFP) model augments the Bridge components model (48.2.1) and the Stream filters and stream gates model (48.2.6) with nodes that represent the managed objects contained in the following tables:

a) The Stream Parameter Table (12.31.1)

b) The Stream Filter Instance Table (12.31.2)

c) The Stream Gate Instance Table (12.31.3)

d) The Flow Meter Instance Table (12.31.4)

The PSFP model is illustrated in Figure 48-20.

There is one stream-filter-instance-table per Bridge component. Each object of the table contains a set of parameters that defines a single Stream Filter (8.6.5.3), as detailed in Table 12-35. The table rows form an ordered list of filter instances, the order being determined by the StreamFilterInstance parameter.

There is one stream-gate-instance-table per Bridge component. Each object of the table contains a set of parameters that defines a single Stream Gate Instance (8.6.5.4), as detailed in Table 12-36.

There is one flow-meter-instance-table per Bridge component. Each object of the table contains a set of parameters that defines a single Flow Meter Instance (8.6.5.5), as detailed in Table 12-37.

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Figure 48-20—PSFP model

48.3 Structure of the YANG models

Insert six new rows at the end of Table 48-1 as follows (unchanged rows not shown):

Table 48-1—Summary of the YANG modules

Module	References	Managed functionality	Initial YANG specification Notes
ieee802-dot1q-sched		8.6.8.4	IEEE Std 802.1Qcw Scheduled traffic module.
ieee802-dot1q-sched-bridge		8.6.8.4	IEEE Std 802.1Qcw Augments Bridge Port with Scheduled Traffic module.
ieee802-dot1q-preemption		6.7.2	IEEE Std 802.1Qcw Frame preemption module.
ieee802-dot1q-preemption bridge		6.7.2	IEEE Std 802.1Qcw Augments Bridge Port with frame preemption.
ieee802-dot1q-psfp		8.6.5.3, 8.6.5.4, 8.6.5.5	IEEE Std 802.1Qcw PSFP module.
ieee802-dot1q-psfp-bridge		8.6.5.3, 8.6.5.4, 8.6.5.5	IEEE Std 802.1Qcw Augments Bridge Port with PSFP module.

Insert 48.3.9, 48.3.10, and 48.3.11 at the end of 48.3 as follows:

48.3.9 Scheduled Traffic model

A Bridge implementing the Scheduled Traffic model (48.2.9) implements the YANG modules in Table 48-10.

Table 48-10—Scheduled Traffic model YANG modules

YANG module
ieee802-types
ieee802-dot1q-types
ieee802-dot1q-bridge
ieee802-dot1q-sched
ieee802-dot1q-sched-bridge

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48.3.10 Frame Preemption model

A Bridge implementing the Frame Preemption model (48.2.10) implements the YANG modules in Table 48-11.

Table 48-11—Frame Preemption model YANG modules

YANG module
ieee802-dot1q-types
ieee802-dot1q-bridge
ieee802-dot1q-preemption
ieee802-dot1q-preemption-bridge

48.3.11 Per-Stream Filtering and Policing model

A Bridge implementing the Per-Stream Filtering and Policing model (48.2.11) implements the YANG modules in Table 48-12.

Table 48-12—Per-Stream Filtering and Policing model YANG modules

YANG module
ieee802-types
ieee802-dot1q-types
ieee802-dot1q-bridge
ieee802-dot1q-stream-filters-gates
ieee802-dot1q-stream-filters-gates-bridge
ieee802-dot1q-psfp
ieee802-dot1q-psfp-bridge

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48.4 Security considerations

Insert a new paragraph as the third paragraph of 48.4 as follows:

There are a number of management objects defined in the YANG modules specified in this standard that are configurable (i.e., read-write) and/or operational (i.e., read-only). Such objects may be considered sensitive or vulnerable in some network environments. A network configuration protocol, such as NETCONF, can support protocol operations that can edit or delete YANG module configuration data (e.g., edit-config, delete-config, copy-config). If this is done in a non-secure environment without proper protection, then negative effects on the network operation are possible.

Delete the first paragraph of 48.4.1, 48.4.2, 48.4.4, 48.4.5, 48.4.6, 48.4.7, and 48.4.8 (each beginning "There are a number of management objects …").

Insert 48.4.9, 48.4.10, and 48.4.11 after 48.4.8 (inserted by IEEE Std 802.1Qcz-2023) as follows:

48.4.9 Security considerations of the Scheduled Traffic model

The following objects in the ieee802-dot1q-sched YANG module could be manipulated to interfere with the operation of egress gating. This could, for example, be used to force a reinitialization of Scheduled Traffic state machines, thus causing network instability.

interfaces/interface/bridge-port/gate-parameter-table

See 48.4.1 for related ieee802-dot1q-bridge YANG model security considerations.

48.4.10 Security considerations of the Frame Preemption model

The following objects in the ieee802-dot1q-preemption YANG module could be manipulated to interfere with the operation of preemption. This could, for example, be used to force a reinitialization of the Frame Preemption status table, thus causing network instability.

interfaces/interface/bridge-port/frame-preemption-parameters

See 48.4.1 for related ieee802-dot1q-bridge YANG model security considerations.

48.4.11 Security considerations of the Per-Stream Filtering and Policing model

The following objects in the ieee802-dot1q-psfp YANG module could be manipulated to interfere with the operation of stream filtering and gating. This could, for example, be used to force a reinitialization of PSFP state machines, thus causing network instability.

bridges/bridge/component/stream-filters

bridges/bridge/component/stream-gates

bridges/bridge/component/flow-meters

See 48.4.1 for related ieee802-dot1q-bridge YANG model security considerations.

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48.5 YANG schema tree definitions

48.5.4 Schema for the ieee802-dot1q-bridge YANG module

Delete the existing text in 48.5.4.

Insert new text in 48.5.4 as follows:

```
module: ieee802-dot1q-bridge
  +--rw bridges
     +--rw bridge* [name]
        +--rw name          dot1qtypes:name-type
        +--rw address       ieee:mac-address
        +--rw bridge-type   identityref
        +--ro ports?        uint16
        +--ro up-time?      yang:zero-based-counter32
        +--ro components?   uint32
        +--rw component* [name]
           +--rw name                    string
           +--rw id?                     uint32
           +--rw type                    identityref
           +--rw address?                ieee:mac-address
           +--rw traffic-class-enabled?  boolean
           +--ro ports?                  uint16
           +--ro bridge-port*            if:interface-ref
           +--ro capabilities
           |  +--ro extended-filtering?            boolean
           |  +--ro traffic-classes?               boolean
           |  +--ro static-entry-individual-port?  boolean
           |  +--ro ivl-capable?                   boolean
           |  +--ro svl-capable?                   boolean
           |  +--ro hybrid-capable?                boolean
           |  +--ro configurable-pvid-tagging?     boolean
           |  +--ro local-vlan-capable?            boolean
           +--rw filtering-database
           |  +--rw aging-time?                          uint32
           |  +--ro size?                                yang:gauge32
           |  +--ro static-entries?                      yang:gauge32
           |  +--ro dynamic-entries?                     yang:gauge32
           |  +--ro static-vlan-registration-entries?    yang:gauge32
           |  +--ro dynamic-vlan-registration-entries?   yang:gauge32
           |  +--ro  mac-address-registration-entries?        yang:gauge32
{extended-filtering-services}
           |  +--rw filtering-entry* [database-id vids address]
           |  |  +--rw database-id   uint32
           |  |  +--rw address       ieee:mac-address
           |  |  +--rw vids          dot1qtypes:vid-range-type
           |  |  +--rw entry-type?   enumeration
           |  |  +--rw port-map* [port-ref]
           |  |     +--rw port-ref                        port-number-type
           |  |     +--rw (map-type)?
           |  |        +--:(static-filtering-entries)
           |  |        |  +--rw static-filtering-entries
           |  |        |     +--rw control-element?        enumeration
           |  |        |     +--rw connection-identifier?  port-number-type
           |  |        +--:(static-vlan-registration-entries)
           |  |        |  +--rw static-vlan-registration-entries
           |  |        |     +--rw registrar-admin-control?  enumeration
           |  |        |     +--rw vlan-transmitted?         enumeration
           |  |        +--:(mac-address-registration-entries)
           |  |        |  +--rw mac-address-registration-entries
           |  |        |     +--rw control-element?  enumeration
           |  |        +--:(dynamic-vlan-registration-entries)
           |  |        |  +--rw dynamic-vlan-registration-entries
           |  |        |     +--rw control-element?  enumeration
           |  |        +--:(dynamic-reservation-entries)
           |  |        |  +--rw dynamic-reservation-entries
           |  |        |     +--rw control-element?  enumeration
           |  |        +--:(dynamic-filtering-entries)
```

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```
|   |   |           +--rw dynamic-filtering-entries
|   |   |              +--rw control-element?    enumeration
|   | +--ro status?        enumeration
| +--rw vlan-registration-entry* [database-id vids]
|   +--rw database-id    uint32
|   +--rw vids         dot1qtypes:vid-range-type
|   +--rw entry-type?    enumeration
|   +--rw port-map* [port-ref]
|      +--rw port-ref                          port-number-type
|      +--rw (map-type)?
|         +--:(static-filtering-entries)
|         | +--rw static-filtering-entries
|         |    +--rw control-element?         enumeration
|         |    +--rw connection-identifier?   port-number-type
|         +--:(static-vlan-registration-entries)
|         | +--rw static-vlan-registration-entries
|         |    +--rw registrar-admin-control?   enumeration
|         |    +--rw vlan-transmitted?          enumeration
|         +--:(mac-address-registration-entries)
|         | +--rw mac-address-registration-entries
|         |    +--rw control-element?   enumeration
|         +--:(dynamic-vlan-registration-entries)
|         | +--rw dynamic-vlan-registration-entries
|         |    +--rw control-element?   enumeration
|         +--:(dynamic-reservation-entries)
|         | +--rw dynamic-reservation-entries
|         |    +--rw control-element?   enumeration
|         +--:(dynamic-filtering-entries)
|            +--rw dynamic-filtering-entries
|               +--rw control-element?   enumeration
+--rw permanent-database
| +--ro size?                           yang:gauge32
| +--ro static-entries?                 yang:gauge32
| +--ro static-vlan-registration-entries?   yang:gauge32
| +--rw filtering-entry* [database-id vids address]
|   +--rw database-id    uint32
|   +--rw address         ieee:mac-address
|   +--rw vids            dot1qtypes:vid-range-type
|   +--ro status?         enumeration
|   +--rw port-map* [port-ref]
|      +--rw port-ref                          port-number-type
|      +--rw (map-type)?
|         +--:(static-filtering-entries)
|         | +--rw static-filtering-entries
|         |    +--rw control-element?         enumeration
|         |    +--rw connection-identifier?   port-number-type
|         +--:(static-vlan-registration-entries)
|         | +--rw static-vlan-registration-entries
|         |    +--rw registrar-admin-control?   enumeration
|         |    +--rw vlan-transmitted?          enumeration
|         +--:(mac-address-registration-entries)
|         | +--rw mac-address-registration-entries
|         |    +--rw control-element?   enumeration
|         +--:(dynamic-vlan-registration-entries)
|         | +--rw dynamic-vlan-registration-entries
|         |    +--rw control-element?   enumeration
|         +--:(dynamic-reservation-entries)
|         | +--rw dynamic-reservation-entries
|         |    +--rw control-element?   enumeration
|         +--:(dynamic-filtering-entries)
|            +--rw dynamic-filtering-entries
|               +--rw control-element?   enumeration
+--rw bridge-vlan
| +--ro version?                uint16
| +--ro max-vids?               uint16
| +--ro override-default-pvid?      boolean
| +--ro protocol-template?           dot1qtypes:protocol-frame-format-type
{port-and-protocol-based-vlan}?
| +--ro max-msti?               uint16
| +--rw vlan* [vid]
| | +--rw vid              dot1qtypes:vlan-index-type
| | +--rw name?            dot1qtypes:name-type
```

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```
    |   |  +--ro untagged-ports*   if:interface-ref
    |   |  +--ro egress-ports*     if:interface-ref
    |   +--rw protocol-group-database* [db-index] {port-and-protocol-based-vlan}?
    |   |  +--rw db-index               uint16
    |   |  +--rw frame-format-type?     dot1qtypes:protocol-frame-format-type
    |   |  +--rw (frame-format)?
    |   |  |  +--:(ethernet-rfc1042-snap8021H)
    |   |  |  |  +--rw ethertype?         dot1qtypes:ethertype-type
    |   |  |  +--:(snap-other)
    |   |  |  |  +--rw protocol-id?       string
    |   |  |  +--:(llc-other)
    |   |  |     +--rw dsap-ssap-pairs
    |   |  |        +--rw llc-address?   string
    |   |  +--rw group-id?              uint32
    |   +--rw vid-to-fid-allocation* [vids]
    |   |  +--rw vids               dot1qtypes:vid-range-type
    |   |  +--ro fid?               uint32
    |   |  +--ro allocation-type?   enumeration
    |   +--rw fid-to-vid-allocation* [fid]
    |   |  +--rw fid                uint32
    |   |  +--ro allocation-type?   enumeration
    |   |  +--ro vid*               dot1qtypes:vlan-index-type
    |   +--rw vid-to-fid* [vid]
    |      +--rw vid    dot1qtypes:vlan-index-type
    |      +--rw fid?   uint32
    +--rw bridge-mst
       +--rw mstid*                       dot1qtypes:mstid-type
       +--rw fid-to-mstid* [fid]
       |  +--rw fid      uint32
       |  +--rw mstid?   dot1qtypes:mstid-type
       +--rw fid-to-mstid-allocation* [fids]
          +--rw fids    dot1qtypes:vid-range-type
          +--rw mstid?  dot1qtypes:mstid-type

  augment /if:interfaces/if:interface:
    +--rw bridge-port
       +--rw bridge-name?                              -> /bridges/bridge/name
          +--rw  component-name?                                        ->
/bridges/bridge[dot1q:name=current()/../bridge-name]/component/name
       +--rw port-type?                                identityref
       +--rw pvid?                                     dot1qtypes:vlan-index-type
       +--rw default-priority?                         dot1qtypes:priority-type
       +--rw priority-regeneration
       |  +--rw priority0?   priority-type
       |  +--rw priority1?   priority-type
       |  +--rw priority2?   priority-type
       |  +--rw priority3?   priority-type
       |  +--rw priority4?   priority-type
       |  +--rw priority5?   priority-type
       |  +--rw priority6?   priority-type
       |  +--rw priority7?   priority-type
       +--rw pcp-selection?                            dot1qtypes:pcp-selection-type
       +--rw pcp-decoding-table
       |  +--rw pcp-decoding-map* [pcp]
       |     +--rw pcp             pcp-selection-type
       |     +--rw priority-map* [priority-code-point]
       |        +--rw priority-code-point   priority-type
       |        +--rw priority?             priority-type
       |        +--rw drop-eligible?        boolean
       +--rw pcp-encoding-table
       |  +--rw pcp-encoding-map* [pcp]
       |     +--rw pcp             pcp-selection-type
       |     +--rw priority-map* [priority dei]
       |        +--rw priority             priority-type
       |        +--rw dei                  boolean
       |        +--rw priority-code-point?  priority-type
       +--rw use-dei?                                  boolean
       +--rw drop-encoding?                            boolean
       +--rw service-access-priority-selection?        boolean
       +--rw service-access-priority
       |  +--rw priority0?   priority-type
       |  +--rw priority1?   priority-type
```

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```
       |  +--rw priority2?   priority-type
       |  +--rw priority3?   priority-type
       |  +--rw priority4?   priority-type
       |  +--rw priority5?   priority-type
       |  +--rw priority6?   priority-type
       |  +--rw priority7?   priority-type
     +--rw traffic-class
     |  x--rw traffic-class-map* [priority]
     |  |  +--rw priority                     priority-type
     |  |  +--rw available-traffic-class* [num-traffic-class]
     |  |     +--rw num-traffic-class    uint8
     |  |     +--rw traffic-class?       traffic-class-type
     |  +--rw traffic-class-table
     |     +--rw number-of-traffic-classes?   uint8
     |     +--rw priority0?                    traffic-class-type
     |     +--rw priority1?                    traffic-class-type
     |     +--rw priority2?                    traffic-class-type
     |     +--rw priority3?                    traffic-class-type
     |     +--rw priority4?                    traffic-class-type
     |     +--rw priority5?                    traffic-class-type
     |     +--rw priority6?                    traffic-class-type
     |     +--rw priority7?                    traffic-class-type
     +--rw transmission-selection-algorithm-table
     |  +--rw transmission-selection-algorithm-map* [traffic-class]
     |     +--rw traffic-class                           traffic-class-type
     |     +--rw transmission-selection-algorithm?       identityref
     +--rw acceptable-frame?                      enumeration
     +--rw enable-ingress-filtering?              boolean
     +--rw enable-restricted-vlan-registration?   boolean
     +--rw enable-vid-translation-table?          boolean
     +--rw enable-egress-vid-translation-table?   boolean
     +--rw protocol-group-vid-set* [group-id] {port-and-protocol-based-vlan}?
     |  +--rw group-id   uint32
     |  +--rw vid*        dot1qtypes:vlanid
     +--rw admin-point-to-point?                  enumeration
               +--ro  protocol-based-vlan-classification?                     boolean
   {port-and-protocol-based-vlan}?
       +--ro max-vid-set-entries?              uint16 {port-and-protocol-based-vlan}?
       +--ro port-number?                      dot1qtypes:port-number-type
       +--ro address?                          ieee:mac-address
       +--ro capabilities?                     bits
       +--ro type-capabilties?                 bits
       +--ro external?                         boolean
       +--ro oper-point-to-point?              boolean
       +--ro media-dependent-overhead?         uint8
       +--ro statistics
       |  +--ro delay-exceeded-discards?       yang:counter64
       |  +--ro mtu-exceeded-discards?         yang:counter64
       |  +--ro frame-rx?                      yang:counter64
       |  +--ro octets-rx?                     yang:counter64
       |  +--ro frame-tx?                      yang:counter64
       |  +--ro octets-tx?                     yang:counter64
       |  +--ro discard-inbound?               yang:counter64
       |  +--ro forward-outbound?              yang:counter64
       |  +--ro discard-lack-of-buffers?       yang:counter64
       |  +--ro discard-transit-delay-exceeded?   yang:counter64
       |  +--ro discard-on-error?              yang:counter64
       |  +--ro discard-on-ingress-filtering?  yang:counter64 {ingress-filtering}?
     +--rw vid-translations* [local-vid]
     |  +--rw local-vid   dot1qtypes:vlanid
     |  +--rw relay-vid?  dot1qtypes:vlanid
     +--rw egress-vid-translations* [relay-vid]
        +--rw relay-vid   dot1qtypes:vlanid
        +--rw local-vid?  dot1qtypes:vlanid
```

Insert new 48.5.17, 48.5.18, 48.5.19, 48.5.20, 48.5.21, and 48.5.22 at the end of 48.5, as follows:

48.5.17 Schema for the ieee802-dot1q-sched YANG module

This YANG module does not have a YANG schema tree.

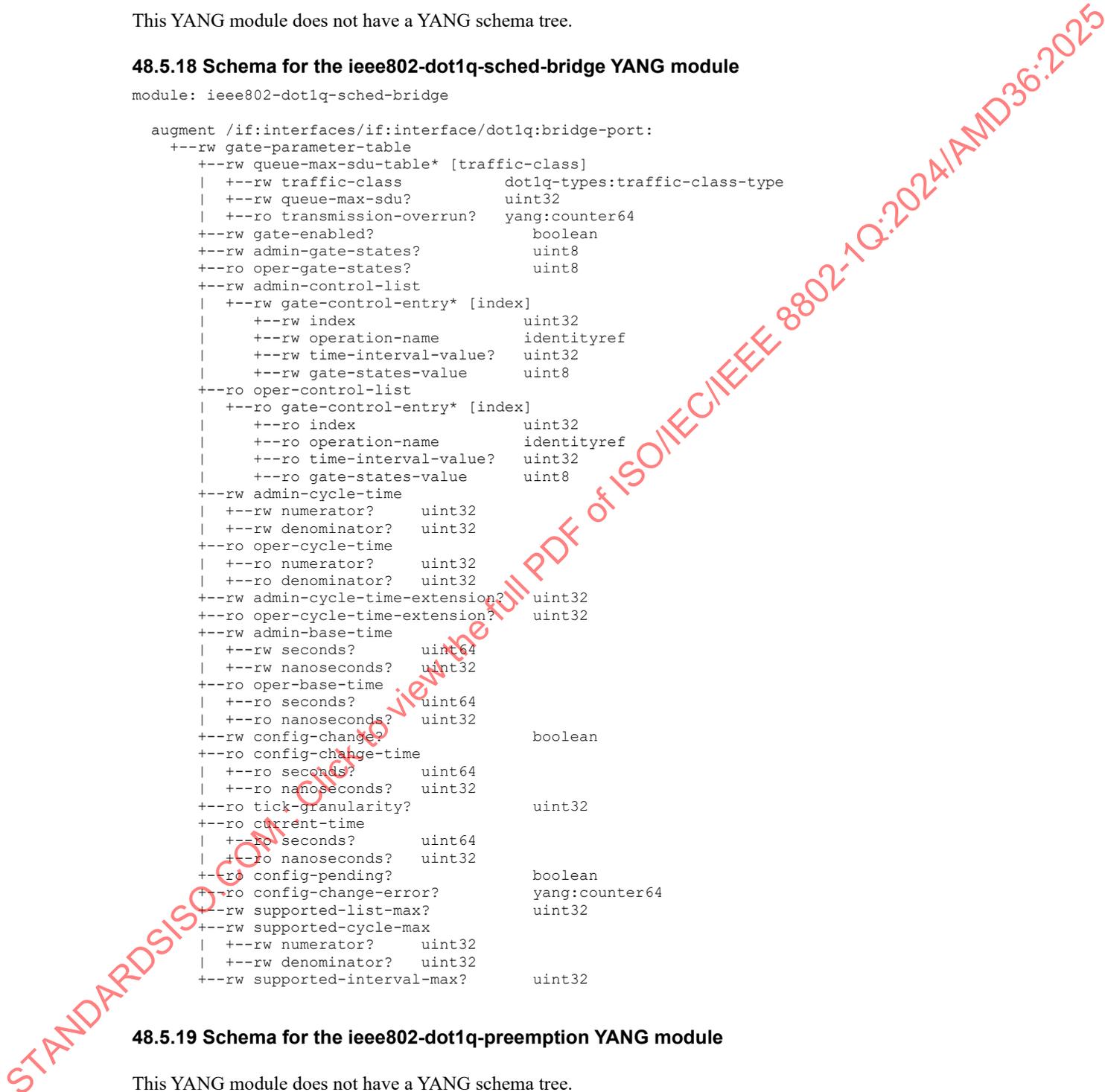### 48.5.18 Schema for the ieee802-dot1q-sched-bridge YANG module

```
module: ieee802-dot1q-sched-bridge

  augment /if:interfaces/if:interface/dot1q:bridge-port:
    +--rw gate-parameter-table
       +--rw queue-max-sdu-table* [traffic-class]
       |  +--rw traffic-class          dot1q-types:traffic-class-type
       |  +--rw queue-max-sdu?         uint32
       |  +--ro transmission-overrun?  yang:counter64
       +--rw gate-enabled?             boolean
       +--rw admin-gate-states?        uint8
       +--ro oper-gate-states?         uint8
       +--rw admin-control-list
       |  +--rw gate-control-entry* [index]
       |     +--rw index                uint32
       |     +--rw operation-name       identityref
       |     +--rw time-interval-value? uint32
       |     +--rw gate-states-value    uint8
       +--ro oper-control-list
       |  +--ro gate-control-entry* [index]
       |     +--ro index                uint32
       |     +--ro operation-name       identityref
       |     +--ro time-interval-value? uint32
       |     +--ro gate-states-value    uint8
       +--rw admin-cycle-time
       |  +--rw numerator?    uint32
       |  +--rw denominator?  uint32
       +--ro oper-cycle-time
       |  +--ro numerator?    uint32
       |  +--ro denominator?  uint32
       +--rw admin-cycle-time-extension?  uint32
       +--ro oper-cycle-time-extension?   uint32
       +--rw admin-base-time
       |  +--rw seconds?      uint64
       |  +--rw nanoseconds?  uint32
       +--ro oper-base-time
       |  +--ro seconds?      uint64
       |  +--ro nanoseconds?  uint32
       +--rw config-change?            boolean
       +--ro config-change-time
       |  +--ro seconds?      uint64
       |  +--ro nanoseconds?  uint32
       +--ro tick-granularity?         uint32
       +--ro current-time
       |  +--ro seconds?      uint64
       |  +--ro nanoseconds?  uint32
       +--ro config-pending?           boolean
       +--ro config-change-error?      yang:counter64
       +--rw supported-list-max?       uint32
       +--rw supported-cycle-max
       |  +--rw numerator?    uint32
       |  +--rw denominator?  uint32
       +--rw supported-interval-max?   uint32
```

48.5.19 Schema for the ieee802-dot1q-preemption YANG module

This YANG module does not have a YANG schema tree.

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48.5.20 Schema for the ieee802-dot1q-preemption-bridge YANG module

```
module: ieee802-dot1q-preemption-bridge

  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
```

48.5.21 Schema for the ieee802-dot1q-psfp YANG module

This YANG module does not have a YANG schema tree.

48.5.22 Schema for the ieee802-dot1q-psfp-bridge YANG module

```
module: ieee802-dot1q-psfp-bridge

  augment /dot1q:bridges/dot1q:bridge/dot1q:component:
    +--rw flow-meters
    |  +--rw flow-meter-instance-table* [flow-meter-instance-id]
    |  |  +--rw flow-meter-instance-id        uint32
    |  |  +--rw committed-information-rate     uint64
    |  |  +--rw committed-burst-size           uint32
    |  |  +--rw excess-information-rate         uint64
    |  |  +--rw excess-burst-size               uint32
    |  |  +--rw coupling-flag                   enumeration
    |  |  +--rw color-mode                      enumeration
    |  |  +--rw drop-on-yellow                  boolean
    |  |  +--rw mark-all-frames-red-enable?     boolean
    |  |  +--rw mark-all-frames-red?            boolean
    |  +--rw max-flow-meter-instances?     uint32
    +--rw stream-gates
    |  +--rw stream-gate-instance-table* [stream-gate-instance-id]
    |  |  +--rw stream-gate-instance-id                   uint32
    |  |  +--rw gate-enable?                              boolean
    |  |  +--rw admin-gate-states?                        gate-state-value-type
    |  |  +--rw admin-ipv?                                ipv-spec-type
    |  |  +--ro oper-gate-state?                          sfsg:gate-state-value-type
    |  |  +--rw oper-ipv?                                 sfsg:ipv-spec-type
    |  |  +--rw admin-control-list
    |  |  |  +--rw gate-control-entry* [index]
    |  |  |     +--rw index                 uint32
    |  |  |     +--rw operation-name        identityref
    |  |  |     +--rw time-interval-value?  uint32
    |  |  |     +--rw gate-state-value      sfsg:gate-state-value-type
    |  |  |     +--rw ipv-spec              sfsg:ipv-spec-type
    |  |  |     +--rw interval-octet-max?   uint32
    |  |  +--ro oper-control-list
    |  |  |  +--ro gate-control-entry* [index]
    |  |  |     +--ro index                 uint32
    |  |  |     +--ro operation-name        identityref
    |  |  |     +--ro time-interval-value?  uint32
    |  |  |     +--ro gate-state-value      sfsg:gate-state-value-type
    |  |  |     +--ro ipv-spec              sfsg:ipv-spec-type
    |  |  |     +--ro interval-octet-max?   uint32
    |  |  +--rw admin-cycle-time
    |  |  |  +--rw numerator?    uint32
    |  |  |  +--rw denominator?  uint32
    |  |  +--ro oper-cycle-time
```

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```
|  |  |  +--ro numerator?       uint32
|  |  |  +--ro denominator?     uint32
|  |  +--rw admin-cycle-time-extension?              uint32
|  |  +--ro oper-cycle-time-extension?               uint32
|  |  +--rw admin-base-time
|  |  |  +--rw seconds?        uint64
|  |  |  +--rw nanoseconds?    uint32
|  |  +--ro oper-base-time
|  |  |  +--ro seconds?        uint64
|  |  |  +--ro nanoseconds?    uint32
|  |  +--rw config-change?                            boolean
|  |  +--ro config-change-time
|  |  |  +--ro seconds?        uint64
|  |  |  +--ro nanoseconds?    uint32
|  |  +--ro tick-granularity?                         uint32
|  |  +--ro current-time
|  |  |  +--ro seconds?        uint64
|  |  |  +--ro nanoseconds?    uint32
|  |  +--ro config-pending?                           boolean
|  |  +--ro config-change-error?                      yang:counter64
|  |  +--rw gate-closed-due-to-invalid-rx-enable?     boolean
|  |  +--rw gate-closed-due-to-invalid-rx?            boolean
|  |  +--rw gate-closed-due-octets-exceeded-enable?   boolean
|  |  +--rw gate-closed-due-octets-exceeded?          boolean
|  +--ro max-stream-gate-instances?    uint32
|  +--rw supported-list-max?          uint32
|  +--rw supported-cycle-max
|  |  +--rw numerator?     uint32
|  |  +--rw denominator?   uint32
|  +--rw supported-interval-max?       uint32
+--rw stream-filters
   +--rw stream-filter-instance-table* [stream-filter-instance-id]
      |  +--rw stream-filter-instance-id                uint32
      |  +--rw (stream-handle-spec)?
      |  |  +--:(wildcard)
      |  |  |  +--rw wildcard?                          empty
      |  |  +--:(stream-handle)
      |  |     +--rw stream-handle                      uint32
      |  +--rw priority-spec                            priority-spec-type
      |  +--rw max-sdu-size                             uint32
      |  +--rw stream-blocked-due-to-oversize-frame-enabled?  boolean
      |  +--rw stream-blocked-due-to-oversize-frame?    boolean
      |     +--rw  stream-gate-ref                                       ->
../../../stream-gates/stream-gate-instance-table/stream-gate-instance-id
      |  +--ro matching-frames-count?                   yang:counter64
      |  +--ro passing-frames-count?                    yang:counter64
      |  +--ro not-passing-frames-count?                yang:counter64
      |  +--ro red-frames-count?                        yang:counter64
      |  +--ro passing-sdu-count?                       yang:counter64
      |  +--ro not-passing-sdu-count?                   yang:counter64
      |     +--rw  flow-meter-ref?                                       ->
../../../flow-meters/flow-meter-instance-table/flow-meter-instance-id
      |  +--rw flow-meter-enable?                       boolean
      +--ro max-stream-filter-instances?    uint32
```

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48.6 YANG modules[9] [10] [11]

48.6.1 The ieee802-types YANG module

Delete the YANG module in 48.6.1.

Insert the following YANG module in 48.6.1:

```
module ieee802-types {
  yang-version "1.1";
  namespace urn:ieee:std:802.1Q:yang:ieee802-types;
  prefix ieee;
  organization
    "IEEE 802.1 Working Group";
  contact
    "WG-URL: http://ieee802.org/1/
    WG-EMail: stds-802-1-l@ieee.org

    Contact: IEEE 802.1 Working Group Chair
    Postal: C/O IEEE 802.1 Working Group
          IEEE Standards Association
          445 Hoes Lane
          Piscataway, NJ 08854
          USA

    E-mail: stds-802-1-chairs@ieee.org";
  description
    "This module contains a collection of generally useful derived data
    types for IEEE YANG models.

    Copyright (C) IEEE (2023). All rights reserved.

    This version of this YANG module is part of IEEE Std 802.1Q; see the
    standard itself for full legal notices.";
  revision 2023-10-22 {
    description
      "Published as part of IEEE Std 802.1Qcw-2023.

      The following reference statement identifies each referenced IEEE
      Standard as updated by applicable amendments.";
    reference
      "IEEE Std 802.1Q Bridges and Bridged Networks:
      IEEE Std 802.1Q-2022, IEEE Std 802.1Qcz-2023, IEEE Std 802.1Qcw-2023.
      IEEE Std 802 Overview and Architecture:
      IEEE Std 802-2014.
      IEEE 802.1AS Timing and Synchronization for Time-Sensitive Applications:
      IEEE Std 802.1AS-2020.";
  }
  revision 2022-10-29 {
    description
      "Published as part of IEEE Std 802.1Q-2022.";
    reference
      "IEEE Std 802.1Q-2022, Bridges and Bridged Networks.";
  }
  revision 2022-03-16 {
    description
      "Published as part of IEEE Std 802.1ABcu.";
    reference
      "IEEE Std 802.1AB-2016";
  }
  revision 2020-06-04 {
    description
      "Published as part of IEEE Std 802.1Qcx-2020. Second version.";
```

---

[9] Copyright release for YANG: Users of this standard may freely reproduce the YANG modules contained in this standard so that they can be used for their intended purpose.

[10] An ASCII version of each YANG module is attached to the PDF of this standard and can also be obtained from the IEEE 802.1 Website at https://1.ieee802.org/yang-modules/.

[11] References in this standard's YANG module definitions are not clickable, as each module has been incorporated unchanged after development and verification using YANG tools.

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```
  reference
    "IEEE Std 802.1Qcx-2020, Bridges and Bridged Networks - YANG Data
    Model for Connectivity Fault Management.";
}
revision 2018-03-07 {
  description
    "Published as part of IEEE Std 802.1Q-2018. Initial version.";
  reference
    "IEEE Std 802.1Q-2018, Bridges and Bridged Networks.";
}
typedef mac-address {
  type string {
    pattern "[0-9a-fA-F]{2}(-[0-9a-fA-F]{2}){5}";
  }
  description
    "The mac-address type represents a MAC address in the canonical format
    and hexadecimal format specified by IEEE Std 802. The hexadecimal
    representation uses uppercase characters.";
  reference
    "3.1, 8.1 of IEEE Std 802";
}
typedef chassis-id-subtype-type {
  type enumeration {
    enum chassis-component {
      value 1;
      description
        "Represents a chassis identifier based on the value of the
        entPhysicalAlias object (defined in IETF RFC 2737) for a chassis
        component (i.e., an entPhysicalClass value of chassis(3)).";
    }
    enum interface-alias {
      value 2;
      description
        "Represents a chassis identifier based on the value of the ifAlias
        object (defined in IETF RFC 2863) for an interface on the
        containing chassis.";
    }
    enum port-component {
      value 3;
      description
        "Represents a chassis identifier based on the value of the
        entPhysicalAlias object (defined in IETF RFC 2737) for a port or
        backplane component (i.e., entPhysicalClass value of port(10) or
        backplane(4)), within the containing chassis.";
    }
    enum mac-address {
      value 4;
      description
        "Represents a chassis identifier based on the value of a unicast
        source address (encoded in network byte order and IEEE 802.3
        bit significance), of a port on the containing chassis as
        defined in IEEE Std 802.";
    }
    enum network-address {
      value 5;
      description
        "Represents a chassis identifier based on a network address,
        associated with a particular chassis. The encoded address is
        actually composed of two fields. The first field is a single
        octet, representing the IANA AddressFamilyNumbers value for the
        specific address type, and the second field is the network address
        value.";
    }
    enum interface-name {
      value 6;
      description
        "Represents a chassis identifier based on the value of the ifName
        object (defined in IETF RFC 2863) for an interface on the
        containing chassis.";
    }
    enum local {
      value 7;
```

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```
        description
          "Represents a chassis identifier based on a locally defined value.";
      }
    }
    description
      "The source of a chassis identifier.";
    reference
      "IEEE Std 802
      IETF RFC 2737
      IETF RFC 2863";
  }
  typedef chassis-id-type {
    type string {
      length "1..255";
    }
    description
      "The format of a chassis identifier string. Objects of this type are
      always used with an associated chassis-id-subtype object, which
      identifies the format of the particular chassis-id object
      instance.

      If the associated chassis-id-subtype object has a value of
      chassis-component, then the octet string identifies a particular
      instance of the entPhysicalAlias object (defined in IETF RFC 2737) for
      a chassis component (i.e., an entPhysicalClass value of chassis(3)).

      If the associated chassis-id-subtype object has a value of
      interface-alias, then the octet string identifies a particular
      instance of the ifAlias object (defined in IETF RFC 2863) for an
      interface on the containing chassis. If the particular ifAlias object
      does not contain any values, another chassis identifier type should be
      used.

      If the associated chassis-id-subtype object has a value of
      port-component, then the octet string identifies a particular instance
      of the entPhysicalAlias object (defined in IETF RFC 2737) for a port
      or backplane component within the containing chassis.

      If the associated chassis-id-subtype object has a value of
      mac-address, then this string identifies a particular unicast source
      address (encoded in network byte order and IEEE 802.3 bit
      significance), of a port on the containing chassis as defined in
      IEEE Std 802.

      If the associated chassis-id-subtype object has a value of
      network-address, then this string identifies a particular network
      address, encoded in network byte order, associated with one or more
      ports on the containing chassis. The first octet contains the IANA
      Address Family Numbers enumeration value for the specific address
      type, and octets 2 through N contain the network address value in
      network byte order.

      If the associated chassis-id-subtype object has a value of
      interface-name, then the octet string identifies a particular instance
      of the ifName object (defined in IETF RFC 2863) for an interface on
      the containing chassis. If the particular ifName object does not
      contain any values, another chassis identifier type should be used.

      If the associated chassis-id-subtype object has a value of local,
      then this string identifies a locally assigned Chassis ID.";
    reference
      "IEEE Std 802
      IETF RFC 2737
      IETF RFC 2863";
  }
  typedef port-id-subtype-type {
    type enumeration {
      enum interface-alias {
        value 1;
        description
          "Represents a port identifier based on the ifAlias MIB object,
          defined in IETF RFC 2863.";
```

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```
      }
      enum port-component {
        value 2;
        description
          "Represents a port identifier based on the value of
          entPhysicalAlias (defined in IETF RFC 2737) for a port component
          (i.e., entPhysicalClass value of port(10)), within the containing
          chassis.";
      }
      enum mac-address {
        value 3;
        description
          "Represents a port identifier based on a unicast source address
          (encoded in network byte order and IEEE 802.3 bit significance),
          which has been detected by the agent and associated with a
          particular port (IEEE Std 802).";
      }
      enum network-address {
        value 4;
        description
          "Represents a port identifier based on a network address, detected
          by the agent and associated with a particular port.";
      }
      enum interface-name {
        value 5;
        description
          "Represents a port identifier based on the ifName MIB object,
          defined in IETF RFC 2863.";
      }
      enum agent-circuit-id {
        value 6;
        description
          "Represents a port identifier based on the agent-local identifier
          of the circuit (defined in RFC 3046), detected by the agent and
          associated with a particular port.";
      }
      enum local {
        value 7;
        description
          "Represents a port identifier based on a value locally assigned.";
      }
    }
    description
      "The source of a particular type of port identifier.";
    reference
      "IEEE Std 802
      IETF RFC 2737
      IETF RFC 2863
      IETF RFC 3046";
  }
  typedef port-id-type {
    type string {
      length "1..255";
    }
    description
      "The format of a port identifier string. Objects of this type are
      always used with an associated port-id-subtype object, which
      identifies the format of the particular port-id object instance.

      If the associated port-id-subtype object has a value of
      interface-alias, then the octet string identifies a particular
      instance of the ifAlias object (defined in IETF RFC 2863). If the
      particular ifAlias object does not contain any values, another port
      identifier type should be used.

      If the associated port-id-subtype object has a value of
      port-component, then the octet string identifies a particular instance
      of the entPhysicalAlias object (defined in IETF RFC 2737) for a port
      or backplane component.

      If the associated port-id-subtype object has a value of
      mac-address, then this string identifies a particular unicast source
```

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```
            address (encoded in network byte order and IEEE 802.3 bit
            significance) associated with the port (IEEE Std 802).

            If the associated port-id-subtype object has a value of
            network-address, then this string identifies a network address
            associated with the port. The first octet contains the IANA
            AddressFamilyNumbers enumeration value for the specific address type,
            and octets 2 through N contain the networkAddress address value in
            network byte order.

            If the associated port-id-subtype object has a value of
            interface-name, then the octet string identifies a particular instance
            of the ifName object (defined in IETF RFC 2863). If the particular
            ifName object does not contain any values, another port identifier
            type should be used.

            If the associated port-id-subtype object has a value of
            agent-circuit-id, then this string identifies a agent-local identifier
            of the circuit (defined in RFC 3046).

            If the associated port-id-subtype object has a value of local,
            then this string identifies a locally assigned port ID.";
        reference
          "IEEE Std 802
          IETF RFC 2737
          IETF RFC 2863
          IETF RFC 3046";
      }
    grouping rational-grouping {
      description
        "Definition of a non-negative rational number.";
      leaf numerator {
        type uint32;
        description
          "Numerator of the rational number.";
      }
      leaf denominator {
        type uint32 {
          range "1..4294967295";
        }
        description
          "Denominator of the rational number.";
      }
    }
    grouping ptp-time-grouping {
      description
        "This grouping specifies a PTP timestamp, represented as a 48-bit
        unsigned integer number of seconds and a 32-bit unsigned integer
        number of nanoseconds.";
      reference
        "6.4.3.4 of IEEE Std 802.1AS";
      leaf seconds {
        type uint64;
        description
          "This is the integer portion of the timestamp in units of seconds.
          The upper 16 bits are always zero.";
      }
      leaf nanoseconds {
        type uint32;
        description
          "This is the fractional portion of the timestamp in units of
          nanoseconds. This value is always less than 10^9.";
      }
    }
  }
}
```

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48.6.2 The ieee802-dot1q-types YANG module

Delete the YANG module in 48.6.2.

Insert the following YANG module in 48.6.2:

```
module ieee802-dot1q-types {
  yang-version "1.1";
  namespace urn:ieee:std:802.1Q:yang:ieee802-dot1q-types;
  prefix dot1q-types;
  import ietf-yang-types {
    prefix yang;
  }
  organization
    "IEEE 802.1 Working Group";
  contact
    "WG-URL: http://ieee802.org/1/
    WG-EMail: stds-802-1-l@ieee.org

    Contact: IEEE 802.1 Working Group Chair
    Postal: C/O IEEE 802.1 Working Group
    IEEE Standards Association
    445 Hoes Lane
    Piscataway, NJ 08854
    USA

    E-mail: stds-802-1-chairs@ieee.org";
  description
    "Common types used within dot1Q-bridge modules.

    Copyright (C) IEEE (2023).

    This version of this YANG module is part of IEEE Std 802.1Q; see the
    standard itself for full legal notices.";
  revision 2023-10-22 {
    description
      "Published as part of IEEE Std 802.1Qcw-2023.

      The following reference statement identifies each referenced IEEE
      Standard as updated by applicable amendments.";
    reference
      "IEEE Std 802.1Q Bridges and Bridged Networks:
      IEEE Std 802.1Q-2022, IEEE Std 802.1Qcz-2023, IEEE Std 802.1Qcw-2023.
      IEEE Std 802 Overview and Architecture:
      IEEE Std 802-2014.";
  }
  revision 2023-07-03 {
    description
      "Published as part of IEEE Std 802.1Qcz-2023.";
    reference
      "IEEE Std 802.1Qcz-2023, Bridges and Bridged Networks - Congestion
      Isolation.";
  }
  revision 2022-10-29 {
    description
      "Published as part of IEEE Std 802.1Q-2022.";
    reference
      "IEEE Std 802.1Q-2022, Bridges and Bridged Networks.";
  }
  revision 2020-06-04 {
    description
      "Published as part of IEEE Std 802.1Qcx-2020.";
    reference
      "IEEE Std 802.1Qcx-2020, Bridges and Bridged Networks - YANG Data
      Model for Connectivity Fault Management.";
  }
  revision 2018-03-07 {
    description
      "Published as part of IEEE Std 802.1Q-2018.";
    reference
```

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```
      "IEEE Std 802.1Q-2018, Bridges and Bridged Networks.";
}
identity dot1q-vlan-type {
  description
    "Base identity from which all 802.1Q VLAN tag types are derived.";
}
identity c-vlan {
  base dot1q-vlan-type;
  description
    "An 802.1Q Customer VLAN, using the 81-00 EtherType.";
  reference
    "5.5 of IEEE Std 802.1Q";
}
identity s-vlan {
  base dot1q-vlan-type;
  description
    "An 802.1Q Service VLAN, using the 88-A8 EtherType originally
    introduced in 802.1ad, and incorporated into 802.1Q (2011)";
  reference
    "5.6 of IEEE Std 802.1Q";
}
identity transmission-selection-algorithm {
  description
    "Specify the transmission selection algorithms of IEEE Std 802.1Q
    Table 8-6";
}
identity strict-priority {
  base transmission-selection-algorithm;
  description
    "Indicates the strict priority transmission selection algorithm.";
  reference
    "Table 8-6 of IEEE Std 802.1Q";
}
identity credit-based-shaper {
  base transmission-selection-algorithm;
  description
    "Indicates the credit-based shaper transmission selection algorithm.";
  reference
    "Table 8-6 of IEEE Std 802.1Q";
}
identity enhanced-transmission-selection {
  base transmission-selection-algorithm;
  description
    "Indicates the enhanced transmission selection algorithm.";
  reference
    "Table 8-6 of IEEE Std 802.1Q";
}
identity asynchronous-traffic-shaping {
  base transmission-selection-algorithm;
  description
    "Indicates the asynchronous transmission selection algorithm.";
  reference
    "Table 8-6 of IEEE Std 802.1Q";
}
identity vendor-specific {
  base transmission-selection-algorithm;
  description
    "Indicates a vendor specific transmission selection algorithm.";
  reference
    "Table 8-6 of IEEE Std 802.1Q";
}
identity type-of-operation {
  description
    "Represents the operation type (name).";
}
typedef name-type {
  type string {
    length "0..32";
  }
  description
    "A text string of up to 32 characters, of locally determined
    significance.";
```

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```
  }
  typedef port-number-type {
    type uint32 {
      range "1..4095";
    }
    description
      "The port number of the Bridge port for which this entry contains
      Bridge management information.";
  }
  typedef priority-type {
    type uint8 {
      range "0..7";
    }
    description
      "A range of priorities from 0 to 7 (inclusive). The Priority Code
      Point (PCP) is a 3-bit field that refers to the class of service
      associated with an 802.1Q VLAN tagged frame. The field specifies a
      priority value between 0 and 7, these values can be used by quality of
      service (QoS) to prioritize different classes of traffic.";
  }
  typedef num-traffic-class-type {
    type uint8 {
      range "1..8";
    }
    description
      "The number of traffic classes supported or participating in a
      particular feature. There are between 1 and 8 supported traffic
      classes defined by IEEE Std 802.1Q.";
  }
  typedef vid-range-type {
    type string {
      pattern
        "([1-9]"+
        "[0-9]{0,3}"+
        "(-[1-9][0-9]{0,3})?"+
        "(,[1-9][0-9]{0,3}(-[1-9][0-9]{0,3})?)*)";
    }
    description
      "A list of VLAN IDs, or non overlapping VLAN ranges, in ascending
      order, between 1 and 4094.

      This type is used to match an ordered list of VLAN IDs, or contiguous
      ranges of VLAN IDs. Valid VLAN IDs must be in the range 1 to 4094, and
      included in the list in non overlapping ascending order.

      For example: 1,10-100,250,500-1000";
  }
  typedef vlanid {
    type uint16 {
      range "1..4094";
    }
    description
      "The vlanid type uniquely identifies a VLAN. This is the 12-bit
      VLAN-ID used in the VLAN Tag header. The range is defined by the
      referenced specification. This type is in the value set and its
      semantics equivalent to the VlanId textual convention of the SMIv2.";
  }
  typedef vlan-index-type {
    type uint32 {
      range "1..4094 | 4096..4294967295";
    }
    description
      "A value used to index per-VLAN tables. Values of 0 and 4095 are not
      permitted. The range of valid VLAN indices. If the value is greater
      than 4095, then it represents a VLAN with scope local to the
      particular agent, i.e., one without a global VLAN-ID assigned to it.
      Such VLANs are outside the scope of IEEE 802.1Q, but it is convenient
      to be able to manage them in the same way using this YANG module.";
    reference
      "9.6 of IEEE Std 802.1Q";
  }
  typedef mstid-type {
```

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```
      type uint32 {
        range "1..4094";
      }
      description
        "In an MSTP Bridge, an MSTID, i.e., a value used to identify a
        spanning tree (or MST) instance";
      reference
        "13.8 of IEEE Std 802.1Q";
    }
    typedef pcp-selection-type {
      type enumeration {
        enum 8P0D {
          description
            "8 priorities, 0 drop eligible";
        }
        enum 7P1D {
          description
            "7 priorities, 1 drop eligible";
        }
        enum 6P2D {
          description
            "6 priorities, 2 drop eligible";
        }
        enum 5P3D {
          description
            "5 priorities, 3 drop eligible";
        }
      }
      description
        "Priority Code Point selection types.";
      reference
        "12.6.2.5.3, 6.9.3 of IEEE Std 802.1Q";
    }
    typedef protocol-frame-format-type {
      type enumeration {
        enum Ethernet {
          description
            "Ethernet frame format";
        }
        enum rfc1042 {
          description
            "RFC 1042 frame format";
        }
        enum snap8021H {
          description
            "SNAP 802.1H frame format";
        }
        enum snapOther {
          description
            "Other SNAP frame format";
        }
        enum llcOther {
          description
            "Other LLC frame format";
        }
      }
      description
        "A value representing the frame format to be matched.";
      reference
        "12.10.1.7.1 of IEEE Std 802.1Q";
    }
    typedef ethertype-type {
      type string {
        pattern "[0-9a-fA-F]{2}-[0-9a-fA-F]{2}";
      }
      description
        "The EtherType value represented in the canonical order defined by
        IEEE 802. The canonical representation uses uppercase characters.";
      reference
        "9.2 of IEEE Std 802";
    }
    typedef dot1q-tag-type {
```

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```
    type identityref {
      base dot1q-vlan-type;
    }
    description
      "Identifies a specific 802.1Q tag type";
    reference
      "9.5 IEEE Std 802.1Q";
}
typedef traffic-class-type {
  type uint8 {
    range "0..7";
  }
  description
    "This is the numerical value associated with a traffic class in a
    Bridge. Larger values are associated with higher priority traffic
    classes.";
  reference
    "3.273 of IEEE Std 802.1Q";
}
grouping dot1q-tag-classifier-grouping {
  description
    "A grouping which represents an 802.1Q VLAN, matching both the
    EtherType and a single VLAN ID.";
  leaf tag-type {
    type dot1q-tag-type;
    mandatory true;
    description
      "VLAN type";
  }
  leaf vlan-id {
    type vlanid;
    mandatory true;
    description
      "VLAN ID";
  }
}
grouping dot1q-tag-or-any-classifier-grouping {
  description
    "A grouping which represents an 802.1Q VLAN, matching both the
    EtherType and a single VLAN ID or 'any' to match on any VLAN ID.";
  leaf tag-type {
    type dot1q-tag-type;
    mandatory true;
    description
      "VLAN type";
  }
  leaf vlan-id {
    type union {
      type vlanid;
      type enumeration {
        enum any {
          value 4095;
          description
            "Matches 'any' VLAN in the range 1 to 4094 that is not matched
            by a more specific VLAN ID match";
        }
      }
    }
    mandatory true;
    description
      "VLAN ID or any";
  }
}
grouping dot1q-tag-ranges-classifier-grouping {
  description
    "A grouping which represents an 802.1Q VLAN that matches a range of
    VLAN IDs.";
  leaf tag-type {
    type dot1q-tag-type;
    mandatory true;
    description
      "VLAN type";
```

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```
      }
    leaf vlan-ids {
      type vid-range-type;
      mandatory true;
      description
        "VLAN IDs";
    }
  }
  grouping dot1q-tag-ranges-or-any-classifier-grouping {
    description
      "A grouping which represents an 802.1Q VLAN, matching both the
      EtherType and a single VLAN ID, ordered list of ranges, or 'any' to
      match on any VLAN ID.";
    leaf tag-type {
      type dot1q-tag-type;
      mandatory true;
      description
        "VLAN type";
    }
    leaf vlan-id {
      type union {
        type vid-range-type;
        type enumeration {
          enum any {
            value 4095;
            description
              "Matches 'any' VLAN in the range 1 to 4094.";
          }
        }
      }
      mandatory true;
      description
        "VLAN IDs or any";
    }
  }
  grouping priority-regeneration-table-grouping {
    description
      "The priority regeneration table provides the ability to map incoming
      priority values on a per-Port basis, under management control.";
    reference
      "6.9.4 of IEEE Std 802.1Q";
    leaf priority0 {
      type priority-type;
      default "0";
      description
        "Priority 0";
      reference
        "12.6.2.3, 6.9.4 of IEEE Std 802.1Q";
    }
    leaf priority1 {
      type priority-type;
      default "1";
      description
        "Priority 1";
      reference
        "12.6.2.3, 6.9.4 of IEEE Std 802.1Q";
    }
    leaf priority2 {
      type priority-type;
      default "2";
      description
        "Priority 2";
      reference
        "12.6.2.3, 6.9.4 of IEEE Std 802.1Q";
    }
    leaf priority3 {
      type priority-type;
      default "3";
      description
        "Priority 3";
      reference
        "12.6.2.3, 6.9.4 of IEEE Std 802.1Q";
```

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```
      }
      leaf priority4 {
        type priority-type;
        default "4";
        description
          "Priority 4";
        reference
          "12.6.2.3, 6.9.4 of IEEE Std 802.1Q";
      }
      leaf priority5 {
        type priority-type;
        default "5";
        description
          "Priority 5";
        reference
          "12.6.2.3, 6.9.4 of IEEE Std 802.1Q";
      }
      leaf priority6 {
        type priority-type;
        default "6";
        description
          "Priority 6";
        reference
          "12.6.2.3, 6.9.4 of IEEE Std 802.1Q";
      }
      leaf priority7 {
        type priority-type;
        default "7";
        description
          "Priority 7";
        reference
          "12.6.2.3, 6.9.4 of IEEE Std 802.1Q";
      }
    }
    grouping pcp-decoding-table-grouping {
      description
        "The Priority Code Point decoding table enables the decoding of the
        priority and drop-eligible parameters from the PCP.";
      reference
        "6.9.3 of IEEE Std 802.1Q";
      list pcp-decoding-map {
        key "pcp";
        description
          "This map associates the priority code point field found in the VLAN
          with a priority and drop eligible value based upon the priority code
          point selection type.";
        leaf pcp {
          type pcp-selection-type;
          description
            "The priority code point selection type.";
          reference
            "12.6.2.7, 6.9.3 of IEEE Std 802.1Q";
        }
        list priority-map {
          key "priority-code-point";
          description
            "This map associates a priority code point value with priority
            and drop eligible parameters.";
          leaf priority-code-point {
            type priority-type;
            description
              "Priority associated with the pcp.";
            reference
              "12.6.2.7, 6.9.3 of IEEE Std 802.1Q";
          }
          leaf priority {
            type priority-type;
            description
              "Priority associated with the pcp.";
            reference
              "12.6.2.7, 6.9.3 of IEEE Std 802.1Q";
          }
```

```
      leaf drop-eligible {
        type boolean;
        description
          "Drop eligible value for pcp";
        reference
          "12.6.2.7, 6.9.3 of IEEE Std 802.1Q";
      }
    }
  }
}
grouping pcp-encoding-table-grouping {
  description
    "The Priority Code Point encoding table encodes the priority and
    drop-eligible parameters in the PCP field of the VLAN tag.";
  reference
    "12.6.2.9, 6.9.3 of IEEE Std 802.1Q";
  list pcp-encoding-map {
    key "pcp";
    description
      "This map associates the priority and drop-eligible parameters
      with the priority used to encode the PCP of the VLAN based upon
      the priority code point selection type.";
    leaf pcp {
      type pcp-selection-type;
      description
        "The priority code point selection type.";
      reference
        "12.6.2.7, 6.9.3 of IEEE Std 802.1Q";
    }
    list priority-map {
      key "priority dei";
      description
        "This map associates the priority and drop-eligible parameters
        with the priority code point field of the VLAN tag.";
      leaf priority {
        type priority-type;
        description
          "Priority associated with the pcp.";
        reference
          "12.6.2.7, 6.9.3 of IEEE Std 802.1Q";
      }
      leaf dei {
        type boolean;
        description
          "The drop eligible value.";
        reference
          "12.6.2, 8.6.6 of IEEE Std 802.1Q";
      }
      leaf priority-code-point {
        type priority-type;
        description
          "PCP value for priority when DEI value";
        reference
          "12.6.2.9, 6.9.3 of IEEE Std 802.1Q";
      }
    }
  }
}
grouping service-access-priority-table-grouping {
  description
    "The Service Access Priority Table associates a received priority with
    a service access priority.";
  reference
    "12.6.2.17, 6.13.1 of IEEE Std 802.1Q";
  leaf priority0 {
    type priority-type;
    default "0";
    description
      "Service access priority value for priority 0";
    reference
      "12.6.2.17, 6.13.1 of IEEE Std 802.1Q";
  }
```

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```
      leaf priority1 {
        type priority-type;
        default "1";
        description
          "Service access priority value for priority 1";
        reference
          "12.6.2.17, 6.13.1 of IEEE Std 802.1Q";
      }
      leaf priority2 {
        type priority-type;
        default "2";
        description
          "Service access priority value for priority 2";
        reference
          "12.6.2.17, 6.13.1 of IEEE Std 802.1Q";
      }
      leaf priority3 {
        type priority-type;
        default "3";
        description
          "Service access priority value for priority 3";
        reference
          "12.6.2.17, 6.13.1 of IEEE Std 802.1Q";
      }
      leaf priority4 {
        type priority-type;
        default "4";
        description
          "Service access priority value for priority 4";
        reference
          "12.6.2.17, 6.13.1 of IEEE Std 802.1Q";
      }
      leaf priority5 {
        type priority-type;
        default "5";
        description
          "Service access priority value for priority 5";
        reference
          "12.6.2.17, 6.13.1 of IEEE Std 802.1Q";
      }
      leaf priority6 {
        type priority-type;
        default "6";
        description
          "Service access priority value for priority 6";
        reference
          "12.6.2.17, 6.13.1 of IEEE Std 802.1Q";
      }
      leaf priority7 {
        type priority-type;
        default "7";
        description
          "Service access priority value for priority 7";
        reference
          "12.6.2.17, 6.13.1 of IEEE Std 802.1Q";
      }
    }
    grouping traffic-class-table-grouping {
      description
        "The Traffic Class Table models the operations that can be
        performed on, or can inquire about, the current contents of the
        Traffic Class Table (8.6.6) for a given Port.";
      reference
        "12.6.3, 8.6.6 of IEEE Std 802.1Q";
      list traffic-class-map {
        key "priority";
        status "deprecated";
        description
          "The priority index into the traffic class table. This list modeled
          the Traffic Class Table incorrectly. available-traffic-class should
          be a single value per port and not a list of all possible
          available-traffic-class. For more information see maintenance issue
```

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```
        0230. The status of this object is deprecated. It is replaced by
        sibling container traffic-class-table.";
    leaf priority {
      type priority-type;
      description
        "The priority of the traffic class entry.";
      reference
        "8.6.6 of IEEE Std 802.1Q";
    }
    list available-traffic-class {
      key "num-traffic-class";
      description
        "The traffic class index associated with a given priority within
        the traffic class table.";
      reference
        "8.6.6 of IEEE Std 802.1Q";
      leaf num-traffic-class {
        type uint8 {
          range "1..8";
        }
        description
          "The available number of traffic classes.";
        reference
          "8.6.6 of IEEE Std 802.1Q";
      }
      leaf traffic-class {
        type traffic-class-type;
        description
          "The traffic class index associated with a given traffic class
          entry.";
        reference
          "8.6.6 of IEEE Std 802.1Q";
      }
    }
  }
  container traffic-class-table {
    description
      "The priority to traffic class mapping.";
    reference
      "8.6.6 of IEEE Std 802.1Q";
    leaf number-of-traffic-classes {
      type uint8 {
        range "1..8";
      }
      description
        "The number of egress traffic classes supported on this port. This
        object may be optionally read-only.";
      reference
        "12.6.3.1 of IEEE Std 802.1Q";
    }
    leaf priority0 {
      type traffic-class-type;
      must
        "current() < ../number-of-traffic-classes";
      description
        "The traffic class index associated with priority 0";
      reference
        "8.6.6 of IEEE Std 802.1Q";
    }
    leaf priority1 {
      type traffic-class-type;
      must
        "current() < ../number-of-traffic-classes";
      description
        "The traffic class index associated with priority 1";
      reference
        "8.6.6 of IEEE Std 802.1Q";
    }
    leaf priority2 {
      type traffic-class-type;
      must
        "current() < ../number-of-traffic-classes";
```

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```
        description
          "The traffic class index associated with priority 2";
        reference
          "8.6.6 of IEEE Std 802.1Q";
      }
      leaf priority3 {
        type traffic-class-type;
        must
          "current() < ../number-of-traffic-classes";
        description
          "The traffic class index associated with priority 3";
        reference
          "8.6.6 of IEEE Std 802.1Q";
      }
      leaf priority4 {
        type traffic-class-type;
        must
          "current() < ../number-of-traffic-classes";
        description
          "The traffic class index associated with priority 4";
        reference
          "8.6.6 of IEEE Std 802.1Q";
      }
      leaf priority5 {
        type traffic-class-type;
        must
          "current() < ../number-of-traffic-classes";
        description
          "The traffic class index associated with priority 5";
        reference
          "8.6.6 of IEEE Std 802.1Q";
      }
      leaf priority6 {
        type traffic-class-type;
        must
          "current() < ../number-of-traffic-classes";
        description
          "The traffic class index associated with priority 6";
        reference
          "8.6.6 of IEEE Std 802.1Q";
      }
      leaf priority7 {
        type traffic-class-type;
        must
          "current() < ../number-of-traffic-classes";
        description
          "The traffic class index associated with priority 7";
        reference
          "8.6.6 of IEEE Std 802.1Q";
      }
    }
  }
  grouping transmission-selection-table-grouping {
    description
      "The Transmission Selection Algorithm Table models the operations that
      can be performed on, or can inquire about, the current contents of the
      Transmission Selection Algorithm Table (12.20.2) for a given Port.";
    reference
      "12.20.2, 8.6.8 of IEEE Std 802.1Q";
    list transmission-selection-algorithm-map {
      key "traffic-class";
      description
        "The traffic class to index into the transmission selection table.";
      leaf traffic-class {
        type traffic-class-type;
        description
          "The traffic class of the entry.";
        reference
          "8.6.6 of IEEE Std 802.1Q";
      }
      leaf transmission-selection-algorithm {
        type identityref {
```

```
        base dot1q-types:transmission-selection-algorithm;
      }
      description
        "Transmission selection algorithm";
      reference
        "8.6.8, Table 8-6 of IEEE Std 802.1Q";
    }
  }
}
grouping port-map-grouping {
  description
    "A set of control indicators, one for each Port. A Port Map,
    containing a control element for each outbound Port";
  reference
    "8.8.1, 8.8.2 of IEEE Std 802.1Q";
  list port-map {
    key "port-ref";
    description
      "The list of entries composing the port map.";
    leaf port-ref {
      type port-number-type;
      description
        "The interface port reference associated with this map.";
      reference
        "8.8.1 of IEEE Std 802.1Q";
    }
    choice map-type {
      description
        "Type of port map";
      container static-filtering-entries {
        description
          "Static filtering entries attributes.";
        leaf control-element {
          type enumeration {
            enum forward {
              description
                "Forwarded, independently of any dynamic filtering
                information held by the FDB.";
            }
            enum filter {
              description
                "Filtered, independently of any dynamic filtering
                information.";
            }
            enum forward-filter {
              description
                "Forwarded or filtered on the basis of dynamic filtering
                information, or on the basis of the default Group
                filtering behavior for the outbound Port (8.8.6) if no
                dynamic filtering information is present specifically for
                the MAC address.";
            }
          }
          description
            "A control element for each outbound Port, specifying that
            a frame with a destination MAC address, and in the case of
            VLAN Bridge components, VID that meets this specification.";
          reference
            "8.8.1 of IEEE Std 802.1Q";
        }
        leaf connection-identifier {
          type port-number-type;
          description
            "A Port MAP may contain a connection identifier (8.8.12) for
            each outbound port. The connection identifier may be
            associated with the Bridge Port value maintained in a Dynamic
            Filtering Entry of the FDB for Bridge Ports.";
          reference
            "8.8.1, 8.8.12 of IEEE Std 802.1Q";
        }
      }
      container static-vlan-registration-entries {
```

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```
        description
          "Static VLAN registration entries.";
        leaf registrar-admin-control {
          type enumeration {
            enum fixed-new-ignored {
              description
                "Registration Fixed (New ignored).";
            }
            enum fixed-new-propagated {
              description
                "Registration Fixed (New propagated.";
            }
            enum forbidden {
              description
                "Registration Forbidden.";
            }
            enum normal {
              description
                "Normal Registration.";
            }
          }
          description
            "The Registrar Administrative Control values for MVRP and MIRP
            for the VID.";
          reference
            "8.8.2 of IEEE Std 802.1Q";
        }
        leaf vlan-transmitted {
          type enumeration {
            enum tagged {
              description
                "VLAN-tagged";
            }
            enum untagged {
              description
                "VLAN-untagged";
            }
          }
          description
            "Whether frames are to be VLAN-tagged or untagged when
            transmitted.";
          reference
            "8.8.2 of IEEE Std 802.1Q";
        }
      }
      container mac-address-registration-entries {
        description
          "MAC address registration entries attributes.";
        leaf control-element {
          type enumeration {
            enum registered {
              description
                "Forwarded, independently of any dynamic filtering
                information held by the FDB.";
            }
            enum not-registered {
              description
                "Filtered, independently of any dynamic filtering
                information.";
            }
          }
          description
            "A control element for each outbound Port, specifying that
            a frame with a destination MAC address, and in the case of
            VLAN Bridge components, VID that meets this specification.";
          reference
            "8.8.4 of IEEE Std 802.1Q";
        }
      }
      container dynamic-vlan-registration-entries {
        description
          "Dynamic VLAN registration entries attributes.";
```

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```
            leaf control-element {
              type enumeration {
                enum registered {
                  description
                    "Forwarded, independently of any dynamic filtering
                    information held by the FDB.";
                }
              }
              description
                "A control element for each outbound Port, specifying that
                a frame with a destination MAC address, and in the case of
                VLAN Bridge components, VID that meets this specification.";
              reference
                "8.8.5 of IEEE Std 802.1Q";
            }
          }
          container dynamic-reservation-entries {
            description
              "Dynamic reservation entries attributes.";
            leaf control-element {
              type enumeration {
                enum forward {
                  description
                    "Forwarded, independently of any dynamic filtering
                    information held by the FDB.";
                }
                enum filter {
                  description
                    "Filtered, independently of any dynamic filtering
                    information.";
                }
              }
              description
                "A control element for each outbound Port, specifying that
                a frame with a destination MAC address, and in the case of
                VLAN Bridge components, VID that meets this specification.";
              reference
                "8.8.7 of IEEE Std 802.1Q";
            }
          }
          container dynamic-filtering-entries {
            description
              "Dynamic filtering entries attributes.";
            leaf control-element {
              type enumeration {
                enum forward {
                  description
                    "Forwarded, independently of any dynamic filtering
                    information held by the FDB.";
                }
              }
              description
                "A control element for each outbound Port, specifying that
                a frame with a destination MAC address, and in the case of
                VLAN Bridge components, VID that meets this specification.";
              reference
                "8.8.3 of IEEE Std 802.1Q";
            }
          }
        }
      }
    }
  }
  grouping bridge-port-statistics-grouping {
    description
      "Grouping of bridge port statistics.";
    reference
      "12.6.1.1.3 of IEEE Std 802.1Q";
    leaf delay-exceeded-discards {
      type yang:counter64;
      description
        "The number of frames discarded by this port due to excessive
        transit delay through the Bridge. It is incremented by both
```

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```
      transparent and source route Bridges.";
    reference
      "12.6.1.1.3, 8.6.6 of IEEE Std 802.1Q";
}
leaf mtu-exceeded-discards {
  type yang:counter64;
  description
    "The number of frames discarded by this port due to an excessive
    size. It is incremented by both transparent and source route
    Bridges.";
  reference
    "Item g) in 12.6.1.1.3 of IEEE Std 802.1Q";
}
leaf frame-rx {
  type yang:counter64;
  description
    "The number of frames that have been received by this port from its
    segment. Note that a frame received on the interface corresponding
    to this port is only counted by this object if and only if it is for
    a protocol being processed by the local bridging function, including
    Bridge management frames.";
  reference
    "12.6.1.1.3 of IEEE Std 802.1Q";
}
leaf octets-rx {
  type yang:counter64;
  description
    "The total number of octets in all valid frames received (including
    BPDUs, frames addressed to the Bridge as an end station, and frames
    that were submitted to the Forwarding Process).";
  reference
    "12.6.1.1.3 of IEEE Std 802.1Q";
}
leaf frame-tx {
  type yang:counter64;
  description
    "The number of frames that have been transmitted by this port to its
    segment. Note that a frame transmitted on the interface
    corresponding to this port is only counted by this object if and
    only if it is for a protocol being processed by the local bridging
    function, including Bridge management frames.";
}
leaf octets-tx {
  type yang:counter64;
  description
    "The total number of octets that have been transmitted by this port
    to its segment.";
}
leaf discard-inbound {
  type yang:counter64;
  description
    "Count of received valid frames that were discarded (i.e., filtered)
    by the Forwarding Process.";
  reference
    "12.6.1.1.3 of IEEE Std 802.1Q";
}
leaf forward-outbound {
  type yang:counter64;
  description
    "The number of frames forwarded to the associated MAC Entity (8.5).";
  reference
    "12.6.1.1.3 of IEEE Std 802.1Q";
}
leaf discard-lack-of-buffers {
  type yang:counter64;
  description
    "The count of frames that were to be transmitted through the
    associated Port but were discarded due to lack of buffers.";
  reference
    "12.6.1.1.3 of IEEE Std 802.1Q";
}
leaf discard-transit-delay-exceeded {
```

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```
      type yang:counter64;
      description
        "The number of frames discarded by this port due to excessive
        transit delay through the Bridge. It is incremented by both
        transparent and source route Bridges.";
      reference
        "12.6.1.1.3 of IEEE Std 802.1Q";
    }
    leaf discard-on-error {
      type yang:counter64;
      description
        "The number of frames that were to be forwarded on the associated
        MAC but could not be transmitted (e.g., frame would be too large,
        6.5.8).";
      reference
        "12.6.1.1.3 of IEEE Std 802.1Q";
    }
  }
  grouping base-gate-control-entries {
    description
      "Grouping of gate control entries.";
    list gate-control-entry {
      key "index";
      description
        "List of gate control entries.";
      leaf index {
        type uint32;
        description
          "The index for this entry.";
      }
      leaf operation-name {
        type identityref {
          base type-of-operation;
        }
        mandatory true;
        description
          "The name (type) of the operation for this entry.";
      }
      leaf time-interval-value {
        type uint32;
        description
          "timeIntervalValue is a 32-bit unsigned integer, representing a
          number of nanoseconds. After timeIntervalValue nanoseconds have
          elapsed since the completion of the previous entry in the gate
          control list, control passes to the next entry.";
        reference
          "12.29.1.2.3, 8.6.8.4 of IEEE Std 802.1Q";
      }
    }
  }
}
```

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48.6.4 The ieee802-dot1q-bridge YANG module

Delete the YANG module in 48.6.4.

Insert the following YANG module in 48.6.4:

```
module ieee802-dot1q-bridge {
  yang-version "1.1";
  namespace urn:ieee:std:802.1Q:yang:ieee802-dot1q-bridge;
  prefix dot1q;
  import ieee802-types {
    prefix ieee;
  }
  import ietf-yang-types {
    prefix yang;
  }
  import ietf-interfaces {
    prefix if;
  }
  import iana-if-type {
    prefix ianaif;
  }
  import ieee802-dot1q-types {
    prefix dot1qtypes;
  }
  organization
    "IEEE 802.1 Working Group";
  contact
    "WG-URL: http://ieee802.org/1/
    WG-EMail: stds-802-1-l@ieee.org

    Contact: IEEE 802.1 Working Group Chair
    Postal: C/O IEEE 802.1 Working Group
            IEEE Standards Association
            445 Hoes Lane
            Piscataway, NJ 08854
            USA

    E-mail: stds-802-1-chairs@ieee.org";
  description
    "This YANG module describes the Bridge configuration model for the
    following IEEE 802.1Q Bridges:
       1) Two Port MAC Relays
       2) Customer VLAN Bridges
       3) Provider Bridges.

    Copyright (C) IEEE (2023).

    This version of this YANG module is part of IEEE Std 802.1Q; see the
    standard itself for full legal notices.";
  revision 2023-10-26 {
    description
      "Published as part of IEEE Std 802.1Qcw-2023.

    The following reference statement identifies each referenced IEEE
    Standard as updated by applicable amendments.";
    reference
      "IEEE Std 802.1Q Bridges and Bridged Networks:
      IEEE Std 802.1Q-2022, IEEE Std 802.1Qcz-2023, IEEE Std 802.1Qcw-2023.
      IEEE Std 802 Overview and Architecture:
      IEEE Std 802-2014.
      IEEE Std 802.1AC Media Access Control (MAC) Service Definition:
      IEEE Std 802.1AC-2016, IEEE Std 802.1AC-2016-Cor1-2018.";
  }
  revision 2022-10-29 {
    description
      "Published as part of IEEE Std 802.1Q-2022.";
    reference
      "IEEE Std 802.1Q-2022, Bridges and Bridged Networks.";
  }
```

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```
    revision 2020-11-06 {
      description
        "Published as part of IEEE Std 802.1Qcr-2020. Third version.";
      reference
        "IEEE Std 802.1Qcr-2020, Bridges and Bridged Networks - Asynchronous
        Traffic Shaping.";
    }
    revision 2020-06-04 {
      description
        "Published as part of IEEE Std 802.1Qcx-2020. Second version.";
      reference
        "IEEE Std 802.1Qcx-2020, Bridges and Bridged Networks - YANG Data
        Model for Connectivity Fault Management.";
    }
    revision 2018-03-07 {
      description
        "Published as part of IEEE Std 802.1Q-2018. Initial version.";
      reference
        "IEEE Std 802.1Q-2018, Bridges and Bridged Networks.";
    }
    feature ingress-filtering {
      description
        "Each Port may support an Enable Ingress Filtering parameter. A frame
        received on a Port that is not in the member set (8.8.10) associated
        with the frames VID shall be discarded if this parameter is set. The
        default value for this parameter is reset, i.e., Disable Ingress
        Filtering, for all Ports. Any Port that supports setting this
        parameter shall also support resetting it. The parameter may be
        configured by the management operations defined in Clause 12.";
      reference
        "8.6.2 of IEEE Std 802.1Q";
    }
    feature extended-filtering-services {
      description
        "Extended Filtering Services support the filtering behavior required
        for regions of a network in which potential recipients of multicast
        frames exist, and where both the potential recipients of frames and
        the Bridges are able to support dynamic configuration of filtering
        information for group MAC addresses. In order to integrate this
        extended filtering behavior with the needs of regions of the network
        that support only Basic Filtering Services, Bridges that support
        Extended Filtering Services can be statically and dynamically
        configured to modify their filtering behavior on a per-group MAC
        address basis, and also on the basis of the overall filtering service
        provided by each outbound Port with regard to multicast frames. The
        latter capability permits configuration of the Port's default
        forwarding or filtering behavior with regard to group MAC addresses
        for which no specific static or dynamic filtering information has been
        configured.";
      reference
        "8.8.4, Clause 10 of IEEE Std 802.1Q";
    }
    feature port-and-protocol-based-vlan {
      description
        "A VLAN-aware Bridge component implementation in conformance to the
        provisions of this standard for Port-and-Protocol-based VLAN
        Classification (5.4.1) shall 1) Support one or more of the following
        Protocol Classifications and Protocol Template formats: Ethernet,
        RFC_1042, SNAP_8021H, SNAP_Other, or LLC_Other (6.12); and may 2)
        Support configuration of the contents of the Protocol Group Database.";
      reference
        "5.4.1.2 of IEEE Std 802.1Q";
    }
    feature flow-filtering {
      description
        "Flow filtering support enables Bridges to distinguish frames
        belonging to different client flows and to use this information in the
        forwarding process. Information related to client flows may be used at
        the boundary of an SPT Domain to generate a flow hash value. The flow
        hash, carried in an F-TAG, serves to distinguish frames belonging to
        different flows and can be used in the forwarding process to
        distribute frames over equal cost paths. This provides for finer
```

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```
    granularity load spreading while maintaining frame order for each
    client flow.";
  reference
    "44.2 of IEEE Std 802.1Q";
}
feature simple-bridge-port {
  description
    "A simple bridge port allows underlying (MAC) layers to share the same
    Interface as the Bridge Port.";
}
feature flexible-bridge-port {
  description
    "A flexible Bridge Port provides an interface that is distinct from
    the interface provided by the underlying (MAC) layer.";
}
identity type-of-bridge {
  description
    "Represents the configured Bridge type.";
}
identity customer-vlan-bridge {
  base type-of-bridge;
  description
    "Base identity for a Customer VLAN Bridge.";
}
identity provider-bridge {
  base type-of-bridge;
  description
    "Base identity for a Provider Bridge (PB).";
}
identity provider-edge-bridge {
  base type-of-bridge;
  description
    "Base identity for a Provider Edge Bridge (PEB).";
}
identity two-port-mac-relay-bridge {
  base type-of-bridge;
  description
    "Base identity for a Two Port MAC Relay (TPMR).";
}
identity type-of-component {
  description
    "Represents the type of Component.";
}
identity c-vlan-component {
  base type-of-component;
  description
    "Base identity for a C-VLAN component.";
}
identity s-vlan-component {
  base type-of-component;
  description
    "Base identity for a S-VLAN component.";
}
identity d-bridge-component {
  base type-of-component;
  description
    "Base identity for a VLAN unaware component.";
}
identity edge-relay-component {
  base type-of-component;
  description
    "Base identity for an EVB station ER component.";
}
identity type-of-port {
  description
    "Represents the type of Bridge port.";
}
identity c-vlan-bridge-port {
  base type-of-port;
  description
    "Indicates the port can be a C-TAG aware port of an enterprise VLAN
    aware Bridge.";
```

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```
}
identity provider-network-port {
  base type-of-port;
  description
    "Indicates the port can be an S-TAG aware port of a Provider Bridge or
    Backbone Edge Bridge used for connections within a PBN (Provider
    Bridged Network) or PBBN (Provider Backbone Bridged Network).";
}
identity customer-network-port {
  base type-of-port;
  description
    "Indicates the port can be an S-TAG aware port of a Provider Bridge or
    Backbone Edge Bridge used for connections to the exterior of a PBN
    (Provider Bridged Network) or PBBN (Provider Backbone Bridged
    Network).";
}
identity customer-edge-port {
  base type-of-port;
  description
    "Indicates the port can be a C-TAG aware port of a Provider Bridge
    used for connections to the exterior of a PBN (Provider Bridged
    Network) or PBBN (Provider Backbone Bridged Network).";
}
identity d-bridge-port {
  base type-of-port;
  description
    "Indicates the port can be a VLAN-unaware member of an 802.1Q Bridge.";
}
identity remote-customer-access-port {
  base type-of-port;
  description
    "Indicates the port can be an S-TAG aware port of a Provider Bridge
    capable of providing Remote Customer Service Interfaces.";
}
identity bridge-interface {
  description
    "Generic interface property that represents any interface that can be
    associated with an IEEE 802.1Q compliant Bridge component. Any new
    Interface types would derive from this identity to automatically pick
    up Bridge related configuration or operational data.";
}
container bridges {
  description
    "Contains the Bridge(s) configuration information.";
  list bridge {
    key "name";
    unique "address";
    description
      "Provides configuration data in support of the Bridge Configuration
      resources. There is a single bridge data node per Bridge.";
    leaf name {
      type dot1qtypes:name-type;
      description
        "A text string associated with the Bridge, of locally determined
        significance.";
      reference
        "12.4 of IEEE Std 802.1Q";
    }
    leaf address {
      type ieee:mac-address;
      mandatory true;
      description
        "The MAC address for the Bridge from which the Bridge Identifiers
        used by the STP, RSTP, and MSTP are derived.";
      reference
        "12.4 of IEEE Std 802.1Q";
    }
    leaf bridge-type {
      type identityref {
        base type-of-bridge;
      }
      mandatory true;
```

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```
        description
          "The type of Bridge.";
      }
      leaf ports {
        type uint16 {
          range "1..4095";
        }
        config false;
        description
          "The number of Bridge Ports (MAC Entities)";
        reference
          "12.4 of IEEE Std 802.1Q";
      }
      leaf up-time {
        type yang:zero-based-counter32;
        units "seconds";
        config false;
        description
          "The count in seconds of the time elapsed since the Bridge was
          last reset or initialized.";
        reference
          "12.4 of IEEE Std 802.1Q";
      }
      leaf components {
        type uint32;
        config false;
        description
          "The number of components associated with the Bridge.";
      }
      list component {
        key "name";
        description
          "The set of components associated with a given Bridge. For
          example, - A TPMR is associated with a single VLAN unaware
          component. - A Customer VLAN Bridge is associated with a single
          VLAN aware component. - A Provider Bridge is associated with a
          single S-VLAN component and zero or more C-VLAN components.";
        reference
          "12.4.1.5 of IEEE Std 802.1Q";
        leaf name {
          type string;
          description
            "The name of the Component.";
        }
        leaf id {
          type uint32;
          description
            "Unique identifier for a particular Bridge component within the
            system.";
          reference
            "Item l) in 12.3 of IEEE Std 802.1Q";
        }
        leaf type {
          type identityref {
            base type-of-component;
          }
          mandatory true;
          description
            "The type of component used to classify a particular Bridge
            component within a Bridge system comprising multiple components.";
          reference
            "Item m) in 12.3 of IEEE Std 802.1Q";
        }
        leaf address {
          type ieee:mac-address;
          description
            "Unique EUI-48 Universally Administered MAC address assigned to
            a Bridge component.";
          reference
            "8.13.8 of IEEE Std 802.1Q";
        }
        leaf traffic-class-enabled {
```

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```
        type boolean;
        default "true";
        description
          "Indication of Traffic Classes enablement associated with the
          Bridge Component. A value of True indicates that Traffic Classes
          are enabled on this Bridge Component. A value of False indicates
          that the Bridge Component operates with a single priority level
          for all traffic.";
        reference
          "Item b) in 12.4.1.5.2 of IEEE Std 802.1Q";
      }
      leaf ports {
        type uint16 {
          range "1..4095";
        }
        config false;
        description
          "The number of Bridge Ports associated with the Bridge
          Component.";
        reference
          "Item c) in 12.4.1.1.3 of IEEE Std 802.1Q";
      }
      leaf-list bridge-port {
        type if:interface-ref;
        config false;
        description
          "List of bridge-port references.";
      }
      container capabilities {
        config false;
        description
          "Array of Boolean values of the feature capabilities associated
          with a given Bridge Component.";
        reference
          "Item b) in 12.10.1.1.3, 12.4.1.5.2 of IEEE Std 802.1Q";
        leaf extended-filtering {
          type boolean;
          default "false";
          description
            "Can perform filtering on individual multicast addresses
            controlled by MMRP.";
          reference
            "12.4.1.5.2 of IEEE Std 802.1Q";
        }
        leaf traffic-classes {
          type boolean;
          default "false";
          description
            "Can map priority to multiple traffic classes.";
          reference
            "12.4.1.5.2 of IEEE Std 802.1Q";
        }
        leaf static-entry-individual-port {
          type boolean;
          default "false";
          description
            "Static entries per port.";
          reference
            "12.4.1.5.2 of IEEE Std 802.1Q";
        }
        leaf ivl-capable {
          type boolean;
          default "true";
          description
            "Independent VLAN Learning (IVL).";
          reference
            "12.4.1.5.2 of IEEE Std 802.1Q";
        }
        leaf svl-capable {
          type boolean;
          default "false";
          description
```

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```
      "Shared VLAN Learning (SVL).";
    reference
      "12.4.1.5.2 of IEEE Std 802.1Q";
  }
  leaf hybrid-capable {
    type boolean;
    default "false";
    description
      "Both IVL and SVL simultaneously.";
    reference
      "12.4.1.5.2 of IEEE Std 802.1Q";
  }
  leaf configurable-pvid-tagging {
    type boolean;
    default "false";
    description
      "Whether the implementation supports the ability to override
      the default PVID setting and its egress status (VLAN-tagged or
      Untagged) on each port.";
    reference
      "12.4.1.5.2 of IEEE Std 802.1Q";
  }
  leaf local-vlan-capable {
    type boolean;
    default "false";
    description
      "Can support multiple local Bridges, outside the scope of
      802.1Q defined VLANs.";
    reference
      "12.4.1.5.2 of IEEE Std 802.1Q";
  }
}
container filtering-database {
  when
    "not(derived-from-or-self(../../bridge-type, "+
    "'two-port-mac-relay-bridge'))" {
    description
      "Applies to non TPMRs.";
  }
  description
    "Contains filtering information used by the Forwarding Process
    in deciding through which Ports of the Bridge frames should be
    forwarded.";
  reference
    "12.7 of IEEE Std 802.1Q";
  leaf aging-time {
    type uint32 {
      range "10..1000000";
    }
    units "seconds";
    default "300";
    description
      "The timeout period in seconds for aging out
      dynamically-learned forwarding information.";
    reference
      "12.7, 8.8.3 of IEEE Std 802.1Q";
  }
  leaf size {
    type yang:gauge32;
    config false;
    description
      "The maximum number of entries that can be held in the FDB.";
    reference
      "12.7 of IEEE Std 802.1Q";
  }
  leaf static-entries {
    type yang:gauge32;
    config false;
    description
      "The number of Static Filtering entries currently in the FDB.";
    reference
      "12.7, 8.8.1 of IEEE Std 802.1Q";
```

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```
        }
        leaf dynamic-entries {
          type yang:gauge32;
          config false;
          description
            "The number of Dynamic Filtering entries currently in the FDB.";
          reference
            "12.7, 8.8.3 of IEEE Std 802.1Q";
        }
        leaf static-vlan-registration-entries {
          type yang:gauge32;
          config false;
          description
            "The number of Static VLAN Registration entries currently in
            the FDB.";
          reference
            "12.7, 8.8.2 of IEEE Std 802.1Q";
        }
        leaf dynamic-vlan-registration-entries {
          type yang:gauge32;
          config false;
          description
            "The number of Dynamic VLAN Registration entries currently in
            the FDB.";
          reference
            "12.7, 8.8.5 of IEEE Std 802.1Q";
        }
        leaf mac-address-registration-entries {
          if-feature "extended-filtering-services";
          type yang:gauge32;
          config false;
          description
            "The number of MAC Address Registration entries currently in
            the FDB.";
          reference
            "12.7, 8.8.4 of IEEE Std 802.1Q";
        }
        list filtering-entry {
          key "database-id vids address";
          description
            "Information for the entries associated with the Permanent
            Database.";
          leaf database-id {
            type uint32;
            description
              "The identity of this Filtering Database.";
            reference
              "12.7.7 of IEEE Std 802.1Q";
          }
          leaf address {
            type ieee:mac-address;
            description
              "A MAC address (unicast, multicast, broadcast) for which the
              device has forwarding and/or filtering information.";
            reference
              "12.7.7 of IEEE Std 802.1Q";
          }
          leaf vids {
            type dot1qtypes:vid-range-type;
            description
              "The set of VLAN identifiers to which this entry applies.";
            reference
              "12.7.7 of IEEE Std 802.1Q";
          }
          leaf entry-type {
            type enumeration {
              enum static {
                description
                  "Static entry type";
              }
              enum dynamic {
                description
```

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```
                        "Dynamic/learnt entry type";
              }
            }
            description
              "The type of filtering entry. Whether static or dynamic.
              Static entries can be created, deleted, and retrieved.
              However, dynamic entries can only be deleted or retrieved by
              the management entity. Consequently, a Bridge is not
              required to accept a command that can alter the dynamic
              entries except delete a dynamic entry.";
            reference
              "12.7.7 of IEEE Std 802.1Q";
          }
          uses dot1qtypes:port-map-grouping;
          leaf status {
            type enumeration {
              enum other {
                description
                  "None of the following. This may include the case where
                  some other object is being used to determine if and how
                  frames addressed to the value of the corresponding
                  instance of 'address' are being forwarded.";
              }
              enum invalid {
                description
                  "This entry is no longer valid (e.g., it was learned but
                  has since aged out), but has not yet been flushed from
                  the table.";
              }
              enum learned {
                description
                  "The value of the corresponding instance of the port
                  node was learned and is being used.";
              }
              enum self {
                description
                  "The value of the corresponding instance of the address
                  node representing one of the devices address.";
              }
              enum mgmt {
                description
                  "The value of the corresponding instance of address node
                  that is also the value of an existing instance.";
              }
            }
            config false;
            description
              "The status of this entry.";
          }
        }
        list vlan-registration-entry {
          key "database-id vids";
          description
            "The VLAN Registration Entries models the operations that can
            be performed on a single VLAN Registration Entry in the FDB.
            The set of VLAN Registration Entries within the FDB changes
            under management control and also as a result of MVRP
            exchanges";
          reference
            "12.7.5 of IEEE Std 802.1Q";
          leaf database-id {
            type uint32;
            description
              "The identity of this Filtering Database.";
            reference
              "12.7.7 of IEEE Std 802.1Q";
          }
          leaf vids {
            type dot1qtypes:vid-range-type;
            description
              "The set of VLAN identifiers to which this entry applies.";
            reference
```

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```
                                    "12.7.7 of IEEE Std 802.1Q";
                              }
                              leaf entry-type {
                                type enumeration {
                                  enum static {
                                    description
                                      "Static entry type";
                                  }
                                  enum dynamic {
                                    description
                                      "Dynamic/learnt entry type";
                                  }
                                }
                                description
                                  "The type of filtering entry. Whether static or dynamic.
                                  Static entries can be created, deleted, and retrieved.
                                  However, dynamic entries can only be deleted or retrieved by
                                  the management entity. Consequently, a Bridge is not
                                  required to accept a command that can alter the dynamic
                                  entries except delete a dynamic entry.";
                                reference
                                  "12.7.7 of IEEE Std 802.1Q";
                              }
                              uses dot1qtypes:port-map-grouping;
                          }
                      }
                      container permanent-database {
                        description
                          "The Permanent Database container models the operations that can
                          be performed on, or affect, the Permanent Database. There is a
                          single Permanent Database per FDB.";
                        leaf size {
                          type yang:gauge32;
                          config false;
                          description
                            "The maximum number of entries that can be held in the FDB.";
                          reference
                            "12.7.6 of IEEE Std 802.1Q";
                        }
                        leaf static-entries {
                          type yang:gauge32;
                          config false;
                          description
                            "The number of Static Filtering entries currently in the FDB.";
                          reference
                            "12.7.6 of IEEE Std 802.1Q";
                        }
                        leaf static-vlan-registration-entries {
                          type yang:gauge32;
                          config false;
                          description
                            "The number of Static VLAN Registration entries currently in
                            the FDB.";
                          reference
                            "12.7.6 of IEEE Std 802.1Q";
                        }
                        list filtering-entry {
                          key "database-id vids address";
                          description
                            "Information for the entries associated with the Permanent
                            Database.";
                          leaf database-id {
                            type uint32;
                            description
                              "The identity of this Filtering Database.";
                            reference
                              "12.7.7 of IEEE Std 802.1Q";
                          }
                          leaf address {
                            type ieee:mac-address;
                            description
                              "A MAC address (unicast, multicast, broadcast) for which the
```

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```
            device has forwarding and/or filtering information.";
          reference
            "12.7.7 of IEEE Std 802.1Q";
        }
        leaf vids {
          type dot1qtypes:vid-range-type;
          description
            "The set of VLAN identifiers to which this entry applies.";
          reference
            "12.7.7 of IEEE Std 802.1Q";
        }
        leaf status {
          type enumeration {
            enum other {
              description
                "None of the following. This may include the case where
                some other object is being used to determine if and how
                frames addressed to the value of the corresponding
                instance of 'address' are being forwarded.";
            }
            enum invalid {
              description
                "This entry is no longer valid (e.g., it was learned but
                has since aged out), but has not yet been flushed from
                the table.";
            }
            enum learned {
              description
                "The value of the corresponding instance of the port
                node was learned and is being used.";
            }
            enum self {
              description
                "The value of the corresponding instance of the address
                node representing one of the devices address.";
            }
            enum mgmt {
              description
                "The value of the corresponding instance of address node
                that is also the value of an existing instance.";
            }
          }
          config false;
          description
            "The status of this entry.";
        }
        uses dot1qtypes:port-map-grouping;
      }
    }
    container bridge-vlan {
      when
        "not(derived-from-or-self(../../bridge-type, "+
        "'two-port-mac-relay-bridge'))" {
        description
          "Applies to non TPMRs.";
      }
      description
        "The Bridge VLAN container models configuration information that
        modifies, or inquires about, the overall configuration of the
        Bridge's VLAN resources. There is a single Bridge VLAN
        Configuration managed object per Bridge.";
      reference
        "12.10 of IEEE Std 802.1Q";
      leaf version {
        type uint16;
        config false;
        description
          "The version number supported.";
        reference
          "Item a) of 12.10.1.1.3 of IEEE Std 802.1Q";
      }
      leaf max-vids {
```

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```
      type uint16;
      config false;
      description
        "The maximum number of VIDs supported.";
      reference
        "Item b)1) of 12.10.1.1.3 of IEEE Std 802.1Q";
    }
    leaf override-default-pvid {
      type boolean;
      default "false";
      config false;
      description
        "Indicates if the default PVID can be overridden, and its
        egress status (VLAN-tagged or untagged) on each port.";
      reference
        "Item b)2) of 12.10.1.1.3 of IEEE Std 802.1Q";
    }
    leaf protocol-template {
      if-feature "port-and-protocol-based-vlan";
      type dot1qtypes:protocol-frame-format-type;
      config false;
      description
        "The data-link encapsulation format or the detagged_frame_type
        in a Protocol Template";
      reference
        "12.10.1.7 of IEEE Std 802.1Q";
    }
    leaf max-msti {
      type uint16;
      config false;
      description
        "The maximum number of MSTIs supported within an MST region
        (i.e., the number of spanning tree instances that can be
        supported in addition to the CIST), for MST Bridges. For SST
        Bridges, this parameter may be either omitted or reported as
        0.";
      reference
        "Item b)4) of 12.10.1.1.3 of IEEE Std 802.1Q";
    }
    list vlan {
      key "vid";
      description
        "List of VLAN related configuration nodes associated with the
        Bridge.";
      reference
        "12.10.2 of IEEE Std 802.1Q";
      leaf vid {
        type dot1qtypes:vlan-index-type;
        description
          "The VLAN identifier to which this entry applies.";
        reference
          "12.10.2 of IEEE Std 802.1Q";
      }
      leaf name {
        type dot1qtypes:name-type;
        description
          "A text string of up to 32 characters of locally determined
          significance.";
        reference
          "12.10.2 of IEEE Std 802.1Q";
      }
      leaf-list untagged-ports {
        type if:interface-ref;
        config false;
        description
          "The set of ports in the untagged set for this VID.";
        reference
          "12.10.2.1.3, 8.8.2 of IEEE Std 802.1Q";
      }
      leaf-list egress-ports {
        type if:interface-ref;
        config false;
```

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```
          description
            "The set of egress ports in the member set for this VID.";
          reference
            "12.10.2.1.3, 8.8.10 of IEEE Std 802.1Q";
        }
      }
      list protocol-group-database {
        if-feature "port-and-protocol-based-vlan";
        key "db-index";
        description
          "List of the protocol group database entries.";
        reference
          "12.10.1.7, 6.12.3 of IEEE Std 802.1Q";
        leaf db-index {
          type uint16;
          description
            "The protocol group database index.";
        }
        leaf frame-format-type {
          type dot1qtypes:protocol-frame-format-type;
          description
            "The data-link encapsulation format or the
            detagged_frame_type in a Protocol Template";
          reference
            "12.10.1.7 of IEEE Std 802.1Q";
        }
        choice frame-format {
          description
            "The identification of the protocol above the data-link
            layer in a Protocol Template. Depending on the frame type,
            the octet string will have one of the following values:
            - For Ethernet, rfc1042, and snap8021H, this is the 16-bit
            (2-octet) EtherType field.
            - For snapOther, this is the 40-bit (5-octet) PID.
            - For llcOther, this is the 2-octet IEEE 802.2 Link Service
            Access Point (LSAP) pair: first octet for Destination Service
            Access Point (DSAP) and second octet for Source Service Access
            Point (SSAP).";
          reference
            "12.10.1.7 of IEEE Std 802.1Q";
          case ethernet-rfc1042-snap8021H {
            when
              "frame-format-type = 'Ethernet' or frame-format-type = "+
              "'rfc1042' or frame-format-type = 'snap8021H'" {
              description
                "Applies to Ethernet, RFC 1042, SNAP 8021H frame
                formats.";
            }
            description
              "Identifier used if Ethenet, RFC1042, or SNAP 8021H.";
            leaf ethertype {
              type dot1qtypes:ethertype-type;
              description
                "Format containing the 16-bit IEEE 802 EtherType field.";
              reference
                "9.2 of IEEE Std 802";
            }
          }
          case snap-other {
            when
              "frame-format-type = 'snapOther'" {
              description
                "Applies to Snap Other frame formats.";
            }
            description
              "Identifier used if SNAP other.";
            leaf protocol-id {
              type string {
                pattern "[0-9a-fA-F]{2}(-[0-9a-fA-F]{2}){4}";
              }
              description
                "Format containing the 40-bit protocol identifier (PID).
```

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```
              The canonical representation uses uppercase characters.";
            reference
              "12.10.1.7.1 of IEEE Std 802.1Q";
          }
        }
        case llc-other {
          when
            "frame-format-type = 'llcOther'" {
            description
              "Applies to LLC Other frame formats";
          }
          description
            "Identifier used if LLC other.";
          container dsap-ssap-pairs {
            description
              "A pair of ISO/IEC 8802-2 DSAP and SSAP address field
              values, for matching frame formats of LLC_Other.";
            leaf llc-address {
              type string {
                pattern "[0-9a-fA-F]{2}-[0-9a-fA-F]{2}";
              }
              description
                "A pair of ISO/IEC 8802-2 DSAP and SSAP address field
                values, for matching frame formats of LLC_Other. The
                canonical representation uses uppercase characters.";
              reference
                "12.10.1.7.1 of IEEE Std 802.1Q";
            }
          }
        }
      }
      leaf group-id {
        type uint32;
        description
          "Designates a group of protocols in the Protocol Group
          Database.";
        reference
          "6.12.2 of IEEE Std 802.1Q";
      }
    }
    list vid-to-fid-allocation {
      key "vids";
      description
        "This list allows inquiries about VID to FID allocations.";
      leaf vids {
        type dot1qtypes:vid-range-type;
        description
          "Range of VLAN identifiers.";
        reference
          "12.10.3 of IEEE Std 802.1Q";
      }
      leaf fid {
        type uint32;
        config false;
        description
          "The Filtering Database used by a set of VIDs.";
        reference
          "12.10.3 of IEEE Std 802.1Q";
      }
      leaf allocation-type {
        type enumeration {
          enum undefined {
            description
              "No allocation defined.";
          }
          enum fixed {
            description
              "A fixed allocation to FID is defined.";
          }
          enum dynamic {
            description
              "A dynamic allocation to FID is defined.";
```

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```
              }
            }
            config false;
            description
              "The type of allocation used";
            reference
              "12.10.3 of IEEE Std 802.1Q";
          }
        }
        list fid-to-vid-allocation {
          key "fid";
          description
            "The FID to VID allocations managed object models operations
            that inquire about FID to VID allocations.";
          leaf fid {
            type uint32;
            description
              "The Filtering Database used by a set of VIDs.";
            reference
              "12.10.3 of IEEE Std 802.1Q";
          }
          leaf allocation-type {
            type enumeration {
              enum undefined {
                description
                  "No allocation defined.";
              }
              enum fixed {
                description
                  "A fixed allocation to FID is defined.";
              }
              enum dynamic {
                description
                  "A dynamic allocation to FID is defined.";
              }
            }
            config false;
            description
              "The type of allocation used";
            reference
              "12.10.3 of IEEE Std 802.1Q";
          }
          leaf-list vid {
            type dot1qtypes:vlan-index-type;
            config false;
            description
              "The VLAN identifier to which this entry applies.";
            reference
              "12.7.7 of IEEE Std 802.1Q";
          }
        }
        list vid-to-fid {
          key "vid";
          description
            "Fixed allocation of a VID to an FID. The underlying system
            will ensure that subsequent commands that make changes to the
            VID to FID mapping can override previous associations.";
          reference
            "12.10.3.4, 12.10.3.5 of IEEE Std 802.1Q";
          leaf vid {
            type dot1qtypes:vlan-index-type;
            description
              "A list of VIDs associated with a given database identifier
              (i.e., FID).";
            reference
              "12.7.7 of IEEE Std 802.1Q";
          }
          leaf fid {
            type uint32;
            description
              "The Filtering Database used by this VLAN";
            reference
```

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```
                "12.10.3 of IEEE Std 802.1Q";
            }
          }
        }
        container bridge-mst {
          when
            "not(derived-from-or-self(../../bridge-type, "+
            "'two-port-mac-relay-bridge'))" {
            description
              "Applies to non TPMRs.";
          }
          description
            "The Bridge MST container models configuration information that
            modifies, or inquires about, the overall configuration of the
            Bridges MST resources.";
          reference
            "12.12 of IEEE Std 802.1Q";
          leaf-list mstid {
            type dot1qtypes:mstid-type;
            description
              "The list of MSTID values that are currently supported by the
              Bridge";
          }
          list fid-to-mstid {
            key "fid";
            description
              "The FID to MSTID allocation table.";
            reference
              "12.12.2 of IEEE Std 802.1Q";
            leaf fid {
              type uint32;
              description
                "The Filtering Database identifier.";
              reference
                "12.12.2 of IEEE Std 802.1Q";
            }
            leaf mstid {
              type dot1qtypes:mstid-type;
              description
                "The MSTID to which the FID is to be allocated.";
              reference
                "12.12.2 of IEEE Std 802.1Q";
            }
          }
          list fid-to-mstid-allocation {
            key "fids";
            description
              "The FID to MSTID allocation table";
            leaf fids {
              type dot1qtypes:vid-range-type;
              description
                "Range of FIDs.";
              reference
                "12.12.2 of IEEE Std 802.1Q";
            }
            leaf mstid {
              type dot1qtypes:mstid-type;
              description
                "The MSTID to which the FID is allocated.";
              reference
                "12.12.2 of IEEE Std 802.1Q";
            }
          }
        }
      }
    }
  }
  augment "/if:interfaces/if:interface" {
    when
      "derived-from-or-self(if:type,'ianaif:bridge') or "+
      "derived-from-or-self(if:type,'ianaif:ethernetCsmacd') or "+
      "derived-from-or-self(if:type,'ianaif:ieee8023adLag') or "+
```

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```
      "derived-from-or-self(if:type,'ianaif:ilan')" {
      description
        "Applies when a Bridge interface.";
    }
  description
    "Augment the interface model with the Bridge Port";
  container bridge-port {
    description
      "Bridge Port is an extension of the IETF Interfaces model (RFC7223).";
    leaf bridge-name {
      type leafref {
        path '/dot1q:bridges/dot1q:bridge/dot1q:name';
      }

      description
        "Used to reference configured Bridge node.";
    }
    leaf component-name {
      type leafref {
        path
          '/dot1q:bridges'+
          '/dot1q:bridge[dot1q:name=current()'+
          '/..'+
          '/bridge-name]'+
          '/dot1q:component'+
          '/dot1q:name';
      }

      description
        "Used to reference configured Component node.";
    }
    leaf port-type {
      type identityref {
        base type-of-port;
      }
      description
        "The port type. Indicates the capabilities of this port.";
      reference
        "12.4.2.1 of IEEE Std 802.1Q";
    }
    leaf pvid {
      when
        "/dot1q:bridges/dot1q:bridge[dot1q:name=current()"+
        "/../dot1q:bridge-name]/dot1q:component[name=current()"+
        "/../dot1q:component-name]/dot1q:type !="+
        "'dot1q:d-bridge-component'" {
        description
          "Applies to non TPMRs";
      }
      type dot1qtypes:vlan-index-type;
      default "1";
      description
        "The primary (default) VID assigned to a specific Bridge Port.";
      reference
        "12.10.1, 5.4, item m) of IEEE Std 802.1Q";
    }
    leaf default-priority {
      type dot1qtypes:priority-type;
      default "0";
      description
        "The default priority assigned to a specific Bridge Port.";
      reference
        "12.6.2 of IEEE Std 802.1Q";
    }
    container priority-regeneration {
      description
        "The Priority Regeneration Table parameters associated with a
        specific Bridge Port. A list of Regenerated User Priorities for
        each received priority on each port of a Bridge. The regenerated
        priority value may be used to index the Traffic Class Table for
        each input port. This only has effect on media that support native
        priority. The default values for Regenerated User Priorities are
```

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```
        the same as the User Priorities";
      reference
        "12.6.2, 6.9.4 of IEEE Std 802.1Q";
      uses dot1qtypes:priority-regeneration-table-grouping;
    }
    leaf pcp-selection {
      type dot1qtypes:pcp-selection-type;
      default "8P0D";
      description
        "The Priority Code Point selection assigned to a specific Bridge
        Port. This object identifies the rows in the PCP encoding and
        decoding tables that are used to remark frames on this port if
        this remarking is enabled";
      reference
        "12.6.2, 6.9.3 of IEEE Std 802.1Q";
    }
    container pcp-decoding-table {
      description
        "The Priority Code Point Decoding Table parameters associated with
        a specific Bridge Port.";
      uses dot1qtypes:pcp-decoding-table-grouping;
    }
    container pcp-encoding-table {
      description
        "The Priority Code Point Encoding Table parameters associated with
        a specific Bridge Port.";
      uses dot1qtypes:pcp-encoding-table-grouping;
    }
    leaf use-dei {
      type boolean;
      default "false";
      description
        "The Drop Eligible Indicator. If it is set to True, then the
        drop_eligible parameter is encoded in the DEI of transmitted
        frames, and the drop_eligible parameter shall be true(1) for a
        received frame if the DEI is set in the VLAN tag or the Priority
        Code Point Decoding Table indicates drop_eligible True for the
        received PCP value. If this parameter is False, the DEI shall be
        transmitted as zero and ignored on receipt.";
      reference
        "12.6.2, 6.9.3 of IEEE Std 802.1Q";
    }
    leaf drop-encoding {
      type boolean;
      default "false";
      description
        "The Drop Encoding parameter. If a Bridge supports encoding or
        decoding of drop_eligible from the PCP field of a VLAN tag (6.9.3)
        on any of its Ports, then it shall implement a Boolean parameter
        Require Drop Encoding on each of its Ports with default value
        False. If Require Drop Encoding is True and the Bridge Port cannot
        encode particular priorities with drop_eligible, then frames
        queued with those priorities and drop_eligible True shall be
        discarded and not transmitted.";
      reference
        "12.6.2, 6.9.3 of IEEE Std 802.1Q";
    }
    leaf service-access-priority-selection {
      type boolean;
      default "false";
      description
        "The Service Access Priority selection. Indication of whether the
        Service Access Priority Selection function is supported on the
        Customer Bridge Port to request priority handling of the frame
        from a Port-based service interface.";
      reference
        "12.6.2, 6.13 of IEEE Std 802.1Q";
    }
    container service-access-priority {
      description
        "The Service Access Priority table parameters. A table that
        contains information about the Service Access Priority Selection
```

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```
      function for a Provider Bridge. The use of this table enables a
      mechanism for a Customer Bridge attached to a Provider Bridged
      Network to request priority handling of frames.";
    reference
      "12.6.2, 6.13.1 of IEEE Std 802.1Q";
    uses dot1qtypes:service-access-priority-table-grouping;
}
container traffic-class {
    description
      "The Traffic Class table parameters. A table mapping evaluated
      priority to Traffic Class, for forwarding by the Bridge";
    reference
      "12.6.3, 8.6.6 of IEEE Std 802.1Q";
    uses dot1qtypes:traffic-class-table-grouping;
}
container transmission-selection-algorithm-table {
    description
      "The Transmission Selection Algorithm Table for a given Port
      assigns, for each traffic class that the Port supports, the
      transmission selection algorithm that is to be used to select
      frames for transmission from the corresponding queue. Transmission
      Selection Algorithm Tables may be managed, and allow the
      identification of vendor-specific transmission selection
      algorithms. The transmission selection algorithms are identified
      in the Transmission Selection Algorithm Table by means of integer
      identifiers.";
    reference
      "12.20.2, 8.6.8 of IEEE Std 802.1Q";
    uses dot1qtypes:transmission-selection-table-grouping;
}
leaf acceptable-frame {
    when
      "/dot1q:bridges/dot1q:bridge[dot1q:name=current()"+
      "/../dot1q:bridge-name]/dot1q:component[name=current()"+
      "/../dot1q:component-name]/dot1q:type !="+
      "'dot1q:d-bridge-component'" {
        description
          "Applies to non TPMRs";
    }
    type enumeration {
        enum admit-only-VLAN-tagged-frames {
            description
              "Admit only VLAN-tagged frames.";
        }
        enum admit-only-untagged-and-priority-tagged {
            description
              "Admit only untagged and priority-tagged frames.";
        }
        enum admit-all-frames {
            description
              "Admit all frames.";
        }
    }
    default "admit-all-frames";
    description
      "To configure the Acceptable Frame Types parameter associated with
      one or more Ports";
    reference
      "12.10.1.3, 6.9 of IEEE Std 802.1Q";
}
leaf enable-ingress-filtering {
    when
      "/dot1q:bridges/dot1q:bridge[dot1q:name=current()"+
      "/../dot1q:bridge-name]/dot1q:component[name=current()"+
      "/../dot1q:component-name]/dot1q:type !="+
      "'dot1q:d-bridge-component'" {
        description
          "Applies to non TPMRs";
    }
    type boolean;
    default "false";
    description
```

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```
            "To enable the Ingress Filtering feature associated with one or
            more Ports.";
          reference
            "12.10.1.4, 8.6.2 of IEEE Std 802.1Q";
        }
        leaf enable-restricted-vlan-registration {
          when
            "/dot1q:bridges/dot1q:bridge[dot1q:name=current()"+
            "/../dot1q:bridge-name]/dot1q:component[name=current()"+
            "/../dot1q:component-name]/dot1q:type !="+
            "'dot1q:d-bridge-component'" {
            description
              "Applies to non TPMRs";
          }
          type boolean;
          default "false";
          description
            "To enable the Restricted VLAN Registration associated with one or
            more Ports.";
          reference
            "11.2.3.2.3, 12.10.1.6 of IEEE Std 802.1Q";
        }
        leaf enable-vid-translation-table {
          when
            "/dot1q:bridges/dot1q:bridge[dot1q:name=current()"+
            "/../dot1q:bridge-name]/dot1q:component[name=current()"+
            "/../dot1q:component-name]/dot1q:type !="+
            "'dot1q:d-bridge-component'" {
            description
              "Applies to non TPMRs";
          }
          type boolean;
          default "false";
          description
            "To enable VID Translation table associated with a Bridge Port.
            This is not applicable to Bridge Ports that do no support a VID
            Translation Table.";
          reference
            "12.10.1.8, 6.9 of IEEE Std 802.1Q";
        }
        leaf enable-egress-vid-translation-table {
          when
            "/dot1q:bridges/dot1q:bridge[dot1q:name=current()"+
            "/../dot1q:bridge-name]/dot1q:component[name=current()"+
            "/../dot1q:component-name]/dot1q:type !="+
            "'dot1q:d-bridge-component'" {
            description
              "Applies to non TPMRs";
          }
          type boolean;
          default "false";
          description
            "To enable Egress VID Translation table associated with a Bridge
            Port. This is not applicable to Ports that do not support an
            Egress VID Translation table.";
          reference
            "12.10.1.8, 6.9 of IEEE Std 802.1Q";
        }
        list protocol-group-vid-set {
          when
            "/dot1q:bridges/dot1q:bridge[dot1q:name=current()"+
            "/../dot1q:bridge-name]/dot1q:component[name=current()"+
            "/../dot1q:component-name]/dot1q:type !="+
            "'dot1q:d-bridge-component'" {
            description
              "Applies to non TPMRs";
          }
          if-feature "port-and-protocol-based-vlan";
          key "group-id";
          description
            "The list of VID values associated with the Protocol Group
            Identifier for this port.";
```

```
      reference
        "12.10.1.1.3 of IEEE Std 802.1Q";
      leaf group-id {
        type uint32;
        description
          "The protocol group identifier";
        reference
          "12.10.1.7 of IEEE Std 802.1Q";
      }
      leaf-list vid {
        type dot1qtypes:vlanid;
        description
          "The VLAN identifier to which this entry applies.";
        reference
          "12.10.2 of IEEE Std 802.1Q";
      }
    }
    leaf admin-point-to-point {
      type enumeration {
        enum force-true {
          value 1;
          description
            "Indicates that this port should always be treated as if it is
            connected to a point-to-point link.";
        }
        enum force-false {
          value 2;
          description
            "Indicates that this port should be treated as having a shared
            media connection.";
        }
        enum auto {
          value 3;
          description
            "Indicates that this port is considered to have a
            point-to-point link if it is an Aggregator and all of its
            members are aggregatable, or if the MAC entity is configured
            for full duplex operation, either through auto-negotiation or
            by management means.";
        }
      }
      description
        "For a port running spanning tree, this object represents the
        administrative point-to-point status of the LAN segment attached
        to this port, using the enumeration values of IEEE Std 802.1AC. A
        value of forceTrue(1) indicates that this port should always be
        treated as if it is connected to a point-to-point link. A value of
        forceFalse(2) indicates that this port should be treated as having
        a shared media connection. A value of auto(3) indicates that this
        port is considered to have a point-to-point link if it is an
        Aggregator and all of its members are aggregatable, or if the MAC
        entity is configured for full duplex operation, either through
        auto-negotiation or by management means. Manipulating this object
        changes the underlying adminPointToPointMAC.";
      reference
        "12.4.2, 6.8.3 of IEEE Std 802.1Q; 11.3 of IEEE Std 802.1AC";
    }
    leaf protocol-based-vlan-classification {
      when
        "/dot1q:bridges/dot1q:bridge[dot1q:name=current()"+
        "/../dot1q:bridge-name]/dot1q:component[name=current()"+
        "/../dot1q:component-name]/dot1q:type !="+
        "'dot1q:d-bridge-component'" {
        description
          "Applies to non TPMRs";
      }
      if-feature "port-and-protocol-based-vlan";
      type boolean;
      config false;
      description
        "A boolean indication indicating if Port-and-Protocol-based VLAN
        classification is supported on a given Port.";
```

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```
        reference
          "5.4.1.2 of IEEE Std 802.1Q";
      }
      leaf max-vid-set-entries {
        when
          "/dot1q:bridges/dot1q:bridge[dot1q:name=current()"+
          "/../dot1q:bridge-name]/dot1q:component[name=current()"+
          "/../dot1q:component-name]/dot1q:type !="+
          "'dot1q:d-bridge-component'" {
          description
            "Applies to non TPMRs";
        }
        if-feature "port-and-protocol-based-vlan";
        type uint16;
        config false;
        description
          "The maximum number of entries supported in the VID set on a given
          Port.";
        reference
          "12.10.1.1.3 of IEEE Std 802.1Q";
      }
      leaf port-number {
        type dot1qtypes:port-number-type;
        config false;
        description
          "An integer that uniquely identifies a Bridge Port.";
        reference
          "Item i) in 12.3, 17.3.2.2 of IEEE Std 802.1Q";
      }
      leaf address {
        type ieee:mac-address;
        config false;
        description
          "The specific MAC address of the individual MAC Entity associated
          with the Port.";
        reference
          "12.4.2, Item a) in 12.4.1.1.3 of IEEE Std 802.1Q";
      }
      leaf capabilities {
        type bits {
          bit tagging {
            position 0;
            description
              "Supports 802.1Q VLAN tagging of frames and MVRP.";
          }
          bit configurable-acceptable-frame-type {
            position 1;
            description
              "Allows modified values of acceptable frame types";
          }
          bit ingress-filtering {
            position 2;
            description
              "Supports the discarding of any frame received on a Port whose
              VLAN classification does not include that Port in its member
              set.";
          }
        }
        config false;
        description
          "The feature capabilities associated with port. Indicates the
          parts of IEEE 802.1Q that are optional on a per-port basis, that
          are implemented by this device, and that are manageable.";
        reference
          "Item c) in 12.10.1.1.3, 12.4.2 of IEEE Std 802.1Q";
      }
      leaf type-capabilties {
        type bits {
          bit customer-vlan-port {
            position 0;
            description
              "Indicates the port can be a C-TAG aware port of an enterprise
```

```
      VLAN aware Bridge";
  }
  bit provider-network-port {
    position 1;
    description
      "Indicates the port can be an S-TAG aware port of a Provider
      Bridge or Backbone Edge Bridge used for connections within a
      PBN or PBBN.";
  }
  bit customer-network-port {
    position 2;
    description
      "Indicates the port can be an S-TAG aware port of a Provider
      Bridge or Backbone Edge Bridge used for connections to the
      exterior of a PBN or PBBN.";
  }
  bit customer-edge-port {
    position 3;
    description
      "Indicates the port can be a C-TAG aware port of a Provider
      Bridge used for connections to the exterior of a PBN or PBBN.";
  }
  bit customer-backbone-port {
    position 4;
    description
      "Indicates the port can be a I-TAG aware port of a Backbone
      Edge Bridge's B-component.";
  }
  bit virtual-instance-port {
    position 5;
    description
      "Indicates the port can be a virtual S-TAG aware port within a
      Backbone Edge Bridge's I-component which is responsible for
      handling S-tagged traffic for a specific backbone service
      instance.";
  }
  bit d-bridge-port {
    position 6;
    description
      "Indicates the port can be a VLAN-unaware member of an 802.1Q
      Bridge.";
  }
  bit remote-customer-access-port {
    position 7;
    description
      "Indicates the port can be an S-TAG aware port of a Provider
      Bridge capable of providing Remote Customer Service
      Interfaces.";
  }
  bit station-facing-bridge-port {
    position 8;
    description
      "Indicates the station-facing Bridge Port in a EVB Bridge.";
  }
  bit uplink-access-port {
    position 9;
    description
      "Indicates the uplink access port in an EVB Bridge or EVB
      station.";
  }
  bit uplink-relay-port {
    position 10;
    description
      "Indicates the uplink relay port in an EVB station.";
  }
}
config false;
description
  "The type of feature capabilities supported with port. Indicates
  the capabilities of this port.";
reference
  "12.4.2 of IEEE Std 802.1Q";
```

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