

IEEE Standard for Local and metropolitan area networks—

Bridges and Bridged Networks—

Corrigendum 1: Technical and editorial corrections

IEEE Computer Society

Sponsored by the
LAN/MAN Standards Committee

IEEE
3 Park Avenue
New York, NY 10016-5997
USA

IEEE Std 802.1Q™-2014/Cor 1-2015
(Corrigendum to
IEEE Std 802.1Q-2014)

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Approved 5 December 2015

IEEE-SA Standards Board

Abstract: Correction of technical and editorial errors identified by the IEEE 802.1 maintenance activity are presented in this document.

Keywords: corrigendum, Bridged Local Area Networks, ECMP, Equal Cost Multiple Paths, IEEE 802.1Q™, LANs, local area networks, MAC Bridges, MANs, metropolitan area networks, Shortest Path Bridging, Virtual Bridged Local Area Networks

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Introduction

This introduction is not part of IEEE Std 802.1Q-2014/Cor 1-2015, IEEE Standard for Local and metropolitan area networks—Bridges and Bridged Networks—Corrigendum 1: Technical and editorial corrections.

This corrigendum to IEEE Std 802.1Q-2014 corrects the small number of errors to the base text identified by the IEEE 802.1 maintenance activity. These changes are needed in order to correct technical and/or editorial errors in the existing text.

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IEEE Standard for Local and metropolitan area networks—

Bridges and Bridged Networks—

Corrigendum 1: Technical and editorial corrections

(This corrigendum is based on IEEE Std 802.1Q™-2014.)

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

Editing instructions are shown in ***bold italic***. 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 either by using ~~strike through~~ (to remove old material) and underline (to add new material). ***Delete*** removes existing material. ***Insert*** adds new material without disturbing the existing material. 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.¹

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¹Notes in text, tables, and figures are given for information only, and do not contain requirements needed to implement the standard.

12. Bridge management

12.22 Stream Reservation Protocol (SRP) entities

12.22.5 SRP Reservations Table

Change row 5 of Table 12-17 as follows:

Table 12-17—SRP Reservations Table row elements

Name	Data type	Operations supported	Conformance	References
Failed ~~Bridge ID~~ <u>system ID</u>	BridgeId	R	BE	35.2.2.8.7(a)

17. Management Information Base (MIB)

17.2 Structure of the MIB

17.2.14 Structure of the IEEE8021-SRP-MIB

Change row 31 and row 32 of Table 17-20 as follows:

Table 17-20—SRP MIB structure and object cross reference

MIB table	MIB object	References
	ieee8021SrpReservationFailure ~~BridgeId~~ <u>SystemId</u>	<u>Bridge-system</u> ID of <u>Bridge-system</u> that changed Talker Advertise to Talker Failed, 12.22.5, 35.2.2.8.7a.
	ieee8021SrpReservationFailureCode	Failure Code associated with <u>Bridge-system</u> that changed Talker Advertise to Talker Failed, 12.22.5, 35.2.2.8.7b.

17.7 MIB modules

17.7.12 Definitions for the IEEE8021-FQTSS-MIB module

Replace the text of 17.7.12 with the following:

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

-- =====
-- MIB for support of the Forwarding & Queuing Enhancements
-- for Time Sensitive Streams (FQTSS) in 802.1Q Bridges.
-- =====

IMPORTS
    MODULE-IDENTITY,
    OBJECT-TYPE,
    Unsigned32
        FROM SNMPv2-SMI
    TEXTUAL-CONVENTION,
    TruthValue,
    RowStatus
        FROM SNMPv2-TC
    MODULE-COMPLIANCE,
    OBJECT-GROUP
        FROM SNMPv2-CONF
    ieee802dot1mibs,
    IEEE8021PriorityValue
        FROM IEEE8021-TC-MIB
    ieee8021BridgeBaseComponentId,
    ieee8021BridgeBasePort
        FROM IEEE8021-BRIDGE-MIB
    ;

ieee8021FqtssMib MODULE-IDENTITY
    LAST-UPDATED "201512020000Z" -- December 2, 2015
    ORGANIZATION "IEEE 802.1 Working Group"
    CONTACT-INFO
        " WG-URL: http://ieee802.org/1/
          WG-EMail: STDS-802-1-L@LISTSERV.IEEE.ORG

          Contact: IEEE 802.1 Working Group Chair
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                  IEEE Standards Association
                  445 Hoes Lane
                  Piscataway
                  NJ 08854
                  USA
          E-mail: STDS-802-1-L@LISTSERV.IEEE.ORG"
    DESCRIPTION
        "The Bridge MIB module for managing devices that support
        the Forwarding and Queuing Enhancements
        for Time Sensitive Streams.

        Unless otherwise indicated, the references in this MIB
        module are to IEEE Std 802.1Q-2014.

        Copyright (C) IEEE (2015).
        This version of this MIB module is part of IEEE802.1Q;
        see the draft itself for full legal notices."
```

REVISION "201512020000Z" -- December 2, 2015

DESCRIPTION

"Published as part of IEEE Std 802.1Q 2014 Cor-1.
ETS code point added to the textual convention
IEEE8021FqtssTxSelectionAlgorithmIDValue "

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 IEEE Std 802.1Q."

REVISION "200910010000Z" -- October 1, 2009

DESCRIPTION

"Initial revision, included in IEEE 802.1Qav."
::= { ieee802dot1mibs 16 }

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

IEEE8021FqtssTrafficClassValue ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS current

DESCRIPTION

"An 802.1 FQTSS 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 "12.20.1"

SYNTAX Unsigned32 (0..7)

IEEE8021FqtssDeltaBandwidthValue ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS current

DESCRIPTION

"An 802.1 FQTSS delta bandwidth percentage,
represented as a fixed point number scaled by
1,000,000."

REFERENCE "12.20.1, 34.4"

SYNTAX Unsigned32 (0..100000000)

IEEE8021FqtssTxSelectionAlgorithmIDValue ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS current

DESCRIPTION

"An 802.1 transmission selection algorithm identifier
value. This is an integer, with the following
interpretation placed on the value:

0: Strict priority algorithm,
1: Credit-based shaper algorithm,
2: Enhanced Transmission Selection algorithm,
3-255: Reserved for future standardization,
256-4294967295: Vendor-specific transmission selection

algorithm identifiers, consisting of a four-octet integer, where the most significant 3 octets hold an OUI or CID value, and the least significant octet holds an integer value in the range 0-255 assigned by the owner of the OUI or CID."

REFERENCE "8.6.8, 12.20.2"
SYNTAX Unsigned32

-- =====
-- subtrees in the FQTSS MIB
-- =====

ieee8021FqtssNotifications
OBJECT IDENTIFIER ::= { ieee8021FqtssMib 0 }

ieee8021FqtssObjects
OBJECT IDENTIFIER ::= { ieee8021FqtssMib 1 }

ieee8021FqtssConformance
OBJECT IDENTIFIER ::= { ieee8021FqtssMib 2 }

ieee8021FqtssBap
OBJECT IDENTIFIER ::= { ieee8021FqtssObjects 1 }

ieee8021FqtssMappings
OBJECT IDENTIFIER ::= { ieee8021FqtssObjects 2 }

-- =====
-- The ieee8021FqtssBap subtree
-- This subtree defines the objects necessary for the management
-- of bandwidth allocation for queues that support FQTSS.
-- =====

-- =====
-- the ieee8021FqtssBapTable
-- =====

ieee8021FqtssBapTable OBJECT-TYPE
SYNTAX SEQUENCE OF Ieee8021FqtssBapEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"A table containing a set of bandwidth availability parameters for each traffic class that supports the credit-based shaper algorithm.
All writable objects in this table must be persistent over power up restart/reboot."
REFERENCE "12.20.1"
::= { ieee8021FqtssBap 1 }

ieee8021FqtssBapEntry OBJECT-TYPE
SYNTAX Ieee8021FqtssBapEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"A list of objects containing bandwidth allocation information for each traffic class that supports the credit-based shaper algorithm. Rows in the table are

automatically created and deleted as a result of the operation of the algorithm described in 34.5. "

```
INDEX { ieee8021BridgeBaseComponentId,
        ieee8021BridgeBasePort,
        ieee8021FqtssBAPTrafficClass }
 ::= { ieee8021FqtssBapTable 1 }
```

Ieee8021FqtssBapEntry ::=

```
SEQUENCE {
    ieee8021FqtssBAPTrafficClass
        IEEE8021FqtssTrafficClassValue,
    ieee8021FqtssDeltaBandwidth
        IEEE8021FqtssDeltaBandwidthValue,
    ieee8021FqtssOperIdleSlopeMs
        Unsigned32,
    ieee8021FqtssOperIdleSlopeLs
        Unsigned32,
    ieee8021FqtssAdminIdleSlopeMs
        Unsigned32,
    ieee8021FqtssAdminIdleSlopeLs
        Unsigned32,
    ieee8021FqtssBapRowStatus
        RowStatus
}
```

ieee8021FqtssBAPTrafficClass OBJECT-TYPE

```
SYNTAX      IEEE8021FqtssTrafficClassValue
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 supports the credit-based shaper algorithm. The recommended mappings of priorities to traffic classes for support of the credit-based shaper algorithm are described in 34.5."

REFERENCE "12.20.2, 34.3, 34.5"

```
::= { ieee8021FqtssBapEntry 1 }
```

ieee8021FqtssDeltaBandwidth OBJECT-TYPE

```
SYNTAX      IEEE8021FqtssDeltaBandwidthValue
UNITS       "percent"
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "The value of the deltaBandwidth parameter
    for the traffic class.
    This value is represented as a fixed point number
    scaled by a factor of 1,000,000; i.e., 100,000,000
    (the maximum value) represents 100%.
```

The default value of the deltaBandwidth parameter for the highest numbered traffic class that supports the credit-based shaper algorithm is 75%; for all lower numbered traffic classes that support the credit-based shaper algorithm the default value is 0%.

The value of this object MUST be retained across reinitializations of the management system."
REFERENCE "12.20.1, 34.3"
::= { ieee8021FqtssBapEntry 2 }

ieee8021FqtssOperIdleSlopeMs OBJECT-TYPE

SYNTAX Unsigned32
UNITS "bits per second"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"The most significant 32 bits of the bandwidth, in bits per second, that is currently allocated to the traffic class (idleSlope(N)). This object MUST be read at the same time as ieee8021FqtssOperIdleSlopeLs, which represents the LS 32 bits of the value, in order for the read operation to succeed.

If SRP is supported and in operation, then the reserved bandwidth is determined by the operation of SRP; otherwise, the value of ieee8021FqtssOperIdleSlopeMs is equal to the value of ieee8021FqtssAdminIdleSlopeMs.

The value of this object MUST be retained across reinitializations of the management system."
REFERENCE "12.20.1, 34.3"
::= { ieee8021FqtssBapEntry 3 }

ieee8021FqtssOperIdleSlopeLs OBJECT-TYPE

SYNTAX Unsigned32
UNITS "bits per second"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"The least significant 32 bits of the bandwidth, in bits per second, that is currently allocated to the traffic class (idleSlope(N)). This object MUST be read at the same time as ieee8021FqtssOperIdleSlopeMs, which represents the LS 32 bits of the value, in order for the read operation to succeed.

If SRP is supported and in operation, then the reserved bandwidth is determined by the operation of SRP; otherwise, the value of ieee8021FqtssOperIdleSlopeLs is equal to the value of ieee8021FqtssAdminIdleSlopeMs.

The value of this object MUST be retained across reinitializations of the management system."
REFERENCE "12.20.1, 34.3"
::= { ieee8021FqtssBapEntry 4 }

ieee8021FqtssAdminIdleSlopeMs OBJECT-TYPE

SYNTAX Unsigned32
UNITS "bits per second"
MAX-ACCESS read-write
STATUS current
DESCRIPTION

"The most significant 32 bits of the bandwidth,

in bits per second, that the manager desires to allocate to the traffic class as `idleSlope(N)`. This object MUST be read or written at the same time as `ieee8021FqtssAdminIdleSlopeLs`, which represents the LS 32 bits of the value, in order for the read or write operation to succeed.

If SRP is supported and in operation, then the reserved bandwidth is determined by the operation of SRP, and any changes to the value of this object have no effect on the operational value of `idleSlope(N)`.

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

REFERENCE "12.20.1, 34.3"
DEFVAL { 0 }
::= { ieee8021FqtssBapEntry 5 }

ieee8021FqtssAdminIdleSlopeLs OBJECT-TYPE

SYNTAX Unsigned32
UNITS "bits per second"
MAX-ACCESS read-write
STATUS current
DESCRIPTION

"The least significant 32 bits of the bandwidth, in bits per second, that the manager desires to allocate to the traffic class as `idleSlope(N)`. This object MUST be read or written at the same time as `ieee8021FqtssAdminIdleSlopeMs`, which represents the LS 32 bits of the value, in order for the read or write operation to succeed.

If SRP is supported and in operation, then the reserved bandwidth is determined by the operation of SRP, and any changes to the value of this object have no effect on the operational value of `idleSlope(N)`.

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

REFERENCE "12.20.1, 34.3"
DEFVAL { 0 }
::= { ieee8021FqtssBapEntry 6 }

ieee8021FqtssBapRowStatus OBJECT-TYPE

SYNTAX RowStatus
MAX-ACCESS read-create
STATUS current
DESCRIPTION

"Indicates the status of an entry (row) in this table, and is used to create/delete entries.

The corresponding instances of the following objects must be set before this object can be made active(1):

`ieee8021FqtssBAPTrafficClass`
`ieee8021FqtssDeltaBandwidth`
`ieee8021FqtssOperIdleSlopeMs`
`ieee8021FqtssOperIdleSlopeLs`
`ieee8021FqtssAdminIdleSlopeMs`
`ieee8021FqtssAdminIdleSlopeLs`

The corresponding instances of the following objects may not be changed while this object is active(1):

```

ieee8021FqtssBAPTrafficClass"
 ::= { ieee8021FqtssBapEntry 7 }

-- =====
-- The ieee8021FqtssMappings subtree
-- This subtree defines the objects necessary for the assignment
-- of transmission selection algorithms to traffic classes,
-- and definition of regeneration table override values.
-- =====

-- =====
-- the ieee8021FqtssTxSelectionAlgorithmTable
-- =====

ieee8021FqtssTxSelectionAlgorithmTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021FqtssTxSelectionAlgorithmEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table containing the assignment of transmission
        selection algorithms to traffic classes for the Port.
        This table provides management of the Transmission
        Selection Algorithm Table defined in 8.6.8.

        For a given Port, a row in the table exists for each
        traffic class that is supported by the Port.

        The default assignments of transmission selection
        algorithms to traffic classes in the table are made
        on instantiation of the table, in accordance
        with the defaults defined in 8.6.8 and 34.5.

        All writable objects in this table must be
        persistent over power up restart/reboot."
    REFERENCE   "8.6.8, 12.20.2, 34.5"
    ::= { ieee8021FqtssMappings 1 }

ieee8021FqtssTxSelectionAlgorithmEntry OBJECT-TYPE
    SYNTAX      Ieee8021FqtssTxSelectionAlgorithmEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects that contain the mapping of a
        traffic class value to a transmission selection algorithm
        value."
    INDEX { ieee8021BridgeBaseComponentId,
            ieee8021BridgeBasePort,
            ieee8021FqtssTrafficClass }
    ::= { ieee8021FqtssTxSelectionAlgorithmTable 1 }

Ieee8021FqtssTxSelectionAlgorithmEntry ::=
    SEQUENCE {
        ieee8021FqtssTrafficClass
            IEEE8021FqtssTrafficClassValue,
        ieee8021FqtssTxSelectionAlgorithmID
            IEEE8021FqtssTxSelectionAlgorithmIDValue
    }

```

```

    }

ieee8021FqtssTrafficClass OBJECT-TYPE
    SYNTAX      IEEE8021FqtssTrafficClassValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The traffic class to which the transmission selection
        algorithm is assigned.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8, 12.20.2, 34.5"
    ::= { ieee8021FqtssTxSelectionAlgorithmEntry 1 }

ieee8021FqtssTxSelectionAlgorithmID OBJECT-TYPE
    SYNTAX      IEEE8021FqtssTxSelectionAlgorithmIDValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The identifier of the transmission selection algorithm
        assigned to the traffic class.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "8.6.8, 12.20.2, 34.5"
    ::= { ieee8021FqtssTxSelectionAlgorithmEntry 2 }

-- =====
-- the ieee8021FqtssSrpRegenOverrideTable
-- =====

ieee8021FqtssSrpRegenOverrideTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021FqtssSrpRegenOverrideEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table containing the set of priority regeneration
        table override values for the Port.

        The recommended default values of priorities
        associated with SR classes, and the corresponding
        override values, are defined in 6.9.4.

        All writable objects in this table must be
        persistent over power up restart/reboot."
    REFERENCE   "35.1.4, 6.9.4, 12.20.3"
    ::= { ieee8021FqtssMappings 2 }

ieee8021FqtssSrpRegenOverrideEntry OBJECT-TYPE
    SYNTAX      Ieee8021FqtssSrpRegenOverrideEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects that contain the mapping of a
        priority value to a priority regeneration override
        value, and a boundary port indication.
        Rows in the table exist for all priorities that are

```

```
associated with SR classes."
INDEX { ieee8021BridgeBaseComponentId,
        ieee8021BridgeBasePort,
        ieee8021FqtssSrClassPriority }
::= { ieee8021FqtssSrpRegenOverrideTable 1 }

Ieee8021FqtssSrpRegenOverrideEntry ::=
SEQUENCE {
    ieee8021FqtssSrClassPriority
        IEEE8021PriorityValue,
    ieee8021FqtssPriorityRegenOverride
        IEEE8021PriorityValue,
    ieee8021FqtssSrpBoundaryPort
        TruthValue
}

ieee8021FqtssSrClassPriority OBJECT-TYPE
SYNTAX      IEEE8021PriorityValue
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "The priority value that is overridden at the
    SRP domain boundary. "
REFERENCE   "35.1.4, 6.9.4, 12.20.3"
::= { ieee8021FqtssSrpRegenOverrideEntry 1 }

ieee8021FqtssPriorityRegenOverride OBJECT-TYPE
SYNTAX      IEEE8021PriorityValue
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "The priority value that is used to override the
    priority regeneration table entry at the SRP
    domain boundary.

    The value of this object MUST be retained across
    reinitializations of the management system."
REFERENCE   "35.1.4, 6.9.4, 12.20.3"
::= { ieee8021FqtssSrpRegenOverrideEntry 2 }

ieee8021FqtssSrpBoundaryPort OBJECT-TYPE
SYNTAX      TruthValue
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The value of the SRPdomainBoundaryPort parameter
    (35.1.4) for the priority. "
REFERENCE   "35.1.4, 6.9.4, 12.20.3"
::= { ieee8021FqtssSrpRegenOverrideEntry 3 }

-- =====
-- IEEE8021 FQTSS MIB - Conformance Information
-- =====

ieee8021FqtssCompliances
    OBJECT IDENTIFIER ::= { ieee8021FqtssConformance 1 }
ieee8021FqtssGroups
    OBJECT IDENTIFIER ::= { ieee8021FqtssConformance 2 }
```

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

-- =====
-- the ieee8021FqtssBap group
-- =====

ieee8021FqtssBapGroup OBJECT-GROUP
  OBJECTS {
    ieee8021FqtssDeltaBandwidth,
    ieee8021FqtssOperIdleSlopeMs,
    ieee8021FqtssOperIdleSlopeLs,
    ieee8021FqtssAdminIdleSlopeMs,
    ieee8021FqtssAdminIdleSlopeLs,
    ieee8021FqtssBapRowStatus
  }
  STATUS      current
  DESCRIPTION
    "Objects that define bandwidth allocation for FQTSS."
  ::= { ieee8021FqtssGroups 1 }

-- =====
-- the ieee8021FqtssTxSelectionAlgorithm group
-- =====

ieee8021FqtssTxSelectionAlgorithmGroup OBJECT-GROUP
  OBJECTS {
    ieee8021FqtssTxSelectionAlgorithmID
  }
  STATUS      current
  DESCRIPTION
    "Objects that define transmission selection
    mappings for FQTSS."
  ::= { ieee8021FqtssGroups 2 }

-- =====
-- the ieee8021FqtssBoundaryPort group
-- =====

ieee8021FqtssBoundaryPortGroup OBJECT-GROUP
  OBJECTS {
    ieee8021FqtssPriorityRegenOverride,
    ieee8021FqtssSrpBoundaryPort
  }
  STATUS      current
  DESCRIPTION
    "Objects that define boundary port priority override
    mappings for FQTSS."
  ::= { ieee8021FqtssGroups 3 }

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

ieee8021FqtssCompliance MODULE-COMPLIANCE
  STATUS      current
  DESCRIPTION
```

"The compliance statement for devices supporting forwarding and queuing for time sensitive streams.

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

```
MODULE -- this module
MANDATORY-GROUPS {
    ieee8021FqtssBapGroup,
    ieee8021FqtssTxSelectionAlgorithmGroup,
    ieee8021FqtssBoundaryPortGroup
}

 ::= { ieee8021FqtssCompliances 1 }

END
```

17.7.14 Definitions for the IEEE8021-SRP-MIB module

Replace the text of 17.7.14 with the following:

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

-- =====
-- MIB for support of 802.1Qat Stream Reservation Protocol
-- (SRP) in 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 "201512020000Z" -- December 2, 2015
    ORGANIZATION "IEEE 802.1 Working Group"
    CONTACT-INFO
        "WG-URL: http://ieee802.org/1/
        WG-EMail: STDS-802-1-L@LISTSERV.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-L@LISTSERV.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-2014.

Copyright (C) IEEE (2015).
This version of this MIB module is part of IEEE802.1Q;
see the draft itself for full legal notices."

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

"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),
                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 writeable 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 }
    ::= { ieee8021SrpBridgeBaseTable 1 }

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

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

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

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
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 }

-- =====
-- 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
    }

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
            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 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}

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."