IEEE STANDARDS ASSOCIATION

IEEE Standard for
Local and metropolitan area networks—

Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks—

Corrigendum 2: Technical and editorial corrections

IEEE Computer Society

Sponsored by the
LAN/MAN Standards Committee

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

2 November 2012

IEEE Std 802.1Q™2011/Cor 2-2012
(Corrigendum to IEEE Std 802.1Q™-2011
as amended by IEEE Std 802.1Qbe™-2011,
IEEE Std 802.1Qbc™-2011, IEEE Std 802.1Qbb™-2011,
IEEE Std 802.1Qaz™-2011, IEEE Std 802.1Qbf™-2011,
IEEE Std 802.aq™-2012, and IEEE Std 802bg™-2012)

IIEEE Std 802.1Q™-2011/Cor 2-2012
(Corrigendum to IEEE Std 802.1Q™-2011
as amended by IEEE Std 802.1Qbe™-2011,
IEEE Std 802.1Qbc™-2011, IEEE Std 802.1Qbb™-2011,
IEEE Std 802.1Qaz™-2011, IEEE Std 802.1Qbf™-2011,
IEEE Std 802.1aq™-2012, and IEEE Std 802.1Qbg™-2012)

IEEE Standard for
Local and metropolitan area networks—

Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks—

Corrigendum 2: Technical and editorial corrections

Sponsor

LAN/MAN Standards Committee
of the
IEEE Computer Society

Approved 19 October 2012

IEEE-SA Standards Board

Abstract: This corrigendum to IEEE Std 802.1Q-2011 corrects technical and editorial errors identified by the IEEE 802.1 Working Group's maintenance activity.
Keywords: Bridged Local Area Networks, IEEE 802.1Q-2011, local area networks (LANs), MAC Bridges, metropolitan area networks, Virtual Bridged Local Area Networks (virtual LANs).

The Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, New York, NY 10016-5997, USA

ISBN 978-0-7381-8000-7 **STD97298**

Notice and Disclaimer of Liability Concerning the Use of IEEE Documents: IEEE Standards documents are developed within the IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (IEEE-SA) Standards Board. IEEE develops its standards through a consensus development process, approved by the American National Standards Institute, which brings together volunteers representing varied viewpoints and interests to achieve the final product. Volunteers are not necessarily members of the Institute and serve without compensation. While IEEE administers the process and establishes rules to promote fairness in the consensus development process, IEEE does not independently evaluate, test, or verify the accuracy of any of the information or the soundness of any judgments contained in its standards.

Use of an IEEE Standard is wholly voluntary. IEEE disclaims liability for any personal injury, property or other damage, of any nature whatsoever, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, or reliance upon any IEEE Standard document.

IEEE does not warrant or represent the accuracy or content of the material contained in its standards, and expressly disclaims any express or implied warranty, including any implied warranty of merchantability or fitness for a specific purpose, or that the use of the material contained in its standards is free from patent infringement. IEEE Standards documents are supplied "**AS IS**."

The existence of an IEEE Standard does not imply that there are no other ways to produce, test, measure, purchase, market, or provide other goods and services related to the scope of the IEEE standard. Furthermore, the viewpoint expressed at the time a standard is approved and issued is subject to change brought about through developments in the state of the art and comments received from users of the standard. Every IEEE standard is subjected to review at least every ten years. When a document is more than ten years old and has not undergone a revision process, it is reasonable to conclude that its contents, although still of some value, do not wholly reflect the present state of the art. Users are cautioned to check to determine that they have the latest edition of any IEEE standard.

In publishing and making its standards available, IEEE is not suggesting or rendering professional or other services for, or on behalf of, any person or entity. Nor is IEEE undertaking to perform any duty owed by any other person or entity to another. Any person utilizing any IEEE Standards document, should rely upon his or her own independent judgment in the exercise of reasonable care in any given circumstances or, as appropriate, seek the advice of a competent professional in determining the appropriateness of a given IEEE standard.

Translations: The IEEE consensus development process involves the review of documents in English only. In the event that an IEEE standard is translated, only the English version published by IEEE should be considered the approved IEEE standard.

Official Statements: A statement, written or oral, that is not processed in accordance with the IEEE-SA Standards Board Operations Manual shall not be considered the official position of IEEE or any of its committees and shall not be considered to be, nor be relied upon as, a formal position of IEEE. At lectures, symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall make it clear that his or her views should be considered the personal views of that individual rather than the formal position of IEEE.

Comments on Standards: Comments for revision of IEEE Standards documents are welcome from any interested party, regardless of membership affiliation with IEEE. However, IEEE does not provide consulting information or advice pertaining to IEEE Standards documents. Suggestions for changes in documents should be in the form of a proposed change of text, together with appropriate supporting comments. Since IEEE standards represent a consensus of concerned interests, it is important to ensure that any responses to comments and questions also receive the concurrence of a balance of interests. For this reason, IEEE and the members of its societies and Standards Coordinating Committees are not able to provide an instant response to comments or questions except in those cases where the matter has previously been addressed. Any person who would like to participate in evaluating comments or revisions to an IEEE standard is welcome to join the relevant IEEE working group.

Comments on standards should be submitted to the following address:

Secretary, IEEE-SA Standards Board
445 Hoes Lane
Piscataway, NJ 08854
USA

Introduction

This introduction is not part of IEEE Std 802.1Q-2011/Cor 2-2012, IEEE Standard for Local and metropolitan area networks—Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks—Corrigendum 2: Technical and editorial corrections.

This amendment to IEEE Std 802.1Q-2011 specifies shortest path bridging of unicast and multicast frames, including protocols to calculate multiple active topologies that can share learned station information, and support of a virtual local area network (VLAN) by multiple, per topology VLAN identifiers (VIDs).

This standard contains state-of-the-art material. The area covered by this standard is undergoing evolution. Revisions are anticipated within the next few years to clarify existing material, to correct possible errors, and to incorporate new related material. Information on the current revision state of this and other IEEE 802® standards may be obtained from

Secretary, IEEE-SA Standards Board
445 Hoes Lane
Piscataway, NJ 08854
USA

Notice to users

Laws and regulations

Users of IEEE Standards documents should consult all applicable laws and regulations. Compliance with the provisions of any IEEE Standards document does not imply compliance to any applicable regulatory requirements. Implementers of the standard are responsible for observing or referring to the applicable regulatory requirements. IEEE does not, by the publication of its standards, intend to urge action that is not in compliance with applicable laws, and these documents may not be construed as doing so.

Copyrights

This document is copyrighted by the IEEE. It is made available for a wide variety of both public and private uses. These include both use, by reference, in laws and regulations, and use in private self-regulation, standardization, and the promotion of engineering practices and methods. By making this document available for use and adoption by public authorities and private users, the IEEE does not waive any rights in copyright to this document.

Updating of IEEE documents

Users of IEEE Standards documents should be aware that these documents may be superseded at any time by the issuance of new editions or may be amended from time to time through the issuance of amendments, corrigenda, or errata. An official IEEE document at any point in time consists of the current edition of the document together with any amendments, corrigenda, or errata then in effect. In order to determine whether a given document is the current edition and whether it has been amended through the issuance of amendments, corrigenda, or errata, visit the IEEE-SA website or contact the IEEE at the address listed previously. For more information about the IEEE Standards Association or the IEEE standards development process, visit the IEEE-SA website.

Errata

Errata, if any, for this and all other standards can be accessed at the following URL: http://standards.ieee.org/findstds/errata/index.html. Users are encouraged to check this URL for errata periodically.

Patents

Attention is called to the possibility that implementation of this standard may require use of subject matter covered by patent rights. By publication of this standard, no position is taken by the IEEE with respect to the existence or validity of any patent rights in connection therewith. If a patent holder or patent applicant has filed a statement of assurance via an Accepted Letter of Assurance, then the statement is listed on the IEEE-SA website http://standards.ieee.org/about/sasb/patcom/patents.html. Letters of Assurance may indicate whether the Submitter is willing or unwilling to grant licenses under patent rights without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants desiring to obtain such licenses.

Essential Patent Claims may exist for which a Letter of Assurance has not been received. The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of Patents Claims, or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or nondiscriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from the IEEE Standards Association.

Participants

At the time this amendment was submitted to the IEEE-SA Standards Board for approval, the IEEE 802.1 Working Group had the following membership:

Tony Jeffree, *Chair and Editor*
Glenn Parsons, *Vice Chair and Chair, Maintenance Task Group*

Zehavit Alon
Yafan An
Ting Ao
Peter Ashwood-Smith
Christian Boiger
Brad Booth
Paul Bottorff
Rudolf Brandner
Craig Carlson
Xin Chang
Weiying Cheng
Paul Congdon
Diego Crupnicoff
Rodney Cummings
Claudio DeSanti
Donald Eastlake
Janos Farkas
Donald Fedyk
Norman Finn
Andre Fredette
Geoffrey Garner
Anoop Ghanwani
Franz Goetz
Mark Gravel
Eric Gray
Yingjie Gu
Craig Gunther
Stephen Haddock
Hitoshi Hayakawa
Marcus Jochim
Girault Jones
Daya Kamath
Hal Keen
Srikanth Keesara
Yongbum Kim
Philippe Klein
Oliver Kleineberg
Lin Li
Jeff Lynch
Thomas Mack-Crane
David Martin
John Messenger
John Morris
Eric Multanen
David Olsen
Donald Pannell
Mark Pearson
Joseph Pelissier
Rene Raeber
Karen T. Randall
Josef Roese
Dan Romascanu
Jessy Rouyer
Ali Sajassi
Panagiotis Saltsidis
Kochiro Seto
Michael Seaman
Rakesh Sharma
Takeshi Shimzu
Kevin Stanton
Michael Johas Teener
Patricia Thaler
Jeremy Touve
Maarten Vissers
Yueha Wei
Min Xiao

The following members of the individual balloting committee voted on this amendment. Balloters may have voted for approval, disapproval, or abstention.

Thomas Alexander
Danilo Antonelli
Alex Ashley
Michael Bahr
Christian Boiger
Nancy Bravin
William Byrd
Juan Carreon
Romana Challans
Keith Chow
Charles Cook
Rodney Cummings
Claudio DeSanti
Donald Eastlake
Donald Fedyk
Yukihiro Fujimoto
Devon Gayle
Anoop Ghanwani
Randall Groves
Michael Gundlach
Craig Gunther
Stephen Haddock
Marek Hajduczenia
David Hunter
Noriyuki Ikeuchi
Akio Iso
Atsushi Ito
Raj Jain
Tony Jeffree
Shinkyo Kaku
Junghong Kao
Piotr Karocki
Stuart Kerry
Yongbum Kim
Bruce Kraemer
Paul Lambert
John Lemon
Shen Loh
William Lumpkins
Greg Luri
Michael Lynch
Thomas Mack-Crane
Elvis Maculuba
Jeffery Masters
John Messenger
Joseph Moran
Michael S. Newman
Charles Ngethe
Satoshi Obara
Satoshi Oyama
Ivan Reede
Maximilian Riegel
Benjamin Rolfe
Jessy Rouyer
John Santhoff
Bartien Sayogo
Michael Seaman
Gil Shultz
Kapil Sood
Manikantan Srinivasan
Thomas Starai
Walter Struppler
Patrik Sundstrom
Joseph Tardo
William Taylor
Patricia Thaler
Dmitri Varsanofiev
Prabodh Varshney
John Vergis
Hung-Yu Wei
Ludwig Winkel
Oren Yuen

When the IEEE-SA Standards Board approved this amendment on 19 October 2012, it had the following membership:

Richard H. Hulett, *Chair*
John Kulick, *Vice Chair*
Robert M. Grow, *Past Chair*
Konstantinos Karachalios, *Secretary*

Satish Aggarwal
Masayuki Ariyoshi
Peter Balma
William Bartley
Ted Burse
Clint Chaplin
Wael Diab
Jean-Philippe Faure
Alexander Gelman
Paul Houzé
Jim Hughes
Young Kuyn Kim
Joseph L. Koepfinger*
David J. Law
Thomas Lee
Hung Ling
Oleg Logvinov
Ted Olsen
Gary Robinson
Jon Walter Rosdahl
Mike Seavey
Yatin Trivedi
Phil Winston
Yu Yuan

*Member Emeritus

Also included are the following nonvoting IEEE-SA Standards Board liaisons:

Richard DeBlasio, *DOE Representative*
Michael Janezic, *NIST Representative*

Patrick Gibbons
IEEE Standards Program Manager, Document Development

Kathryn Bennett
IEEE Standards Program Manager, Technical Program Development

Contents

Figures

Tables

IEEE Standard for
Local and metropolitan area networks—

Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks—

Corrigendum 2: Technical and editorial corrections

This corrigendum is based on IEEE Std 802.1Q™-2011, as modified by IEEE Std 802.1Qbe™-2011, IEEE Std 802.1Qbc™-2011, IEEE Std 802.1Qbb™-2011, IEEE Std 802.1Qaz™-2011, IEEE Std 802.1Qbf™-2011, IEEE Std 802.1aq™-2012, and IEEE Std 802.1Qbg™-2012.

NOTE—The editing instructions contained in this corrigendum 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 ~~strikethrough~~ (to remove old material) and underscore (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]

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

5. Conformance

5.4 VLAN-aware Bridge component requirements

5.4.4 Multiple Stream Registration Protocol (MSRP) requirements

Change list item b) as shown:

b) Exchange MRPDUs as required by those state machines, formatted in accordance with the generic PDU format described in 10.8, and able to carry application-specific information as defined in Clause 35, ~~using the group MAC addresses reserved for use by MRP applications, as defined in Table 10-1~~using the "Individual LAN Scope group address, Nearest Bridge group address" as defined in Table 8-1, Table 8-2 and Table 8-3 (C-VLAN, S-VLAN and TPMR component Reserved addresses, respectively).

5.16 End station requirements for MMRP, MVRP, and MSRP

5.16.3 MSRP requirements and options

Change list item b) as shown:

b) Exchange MPDUs as required by the MRP state machine(s) implemented, formatted in accordance with the generic PDU format described in 10.8, and able to carry application-specific information as defined in 35.2.2, ~~using the MSRP Application address as defined in Table 10-1~~using the "Individual LAN Scope group address, Nearest Bridge group address" as defined in Table 8-1, Table 8-2 and Table 8-3 (C-VLAN, S-VLAN and TPMR component Reserved addresses, respectively).

6. Support of the MAC Service

Replace Figure 6-2 as shown:

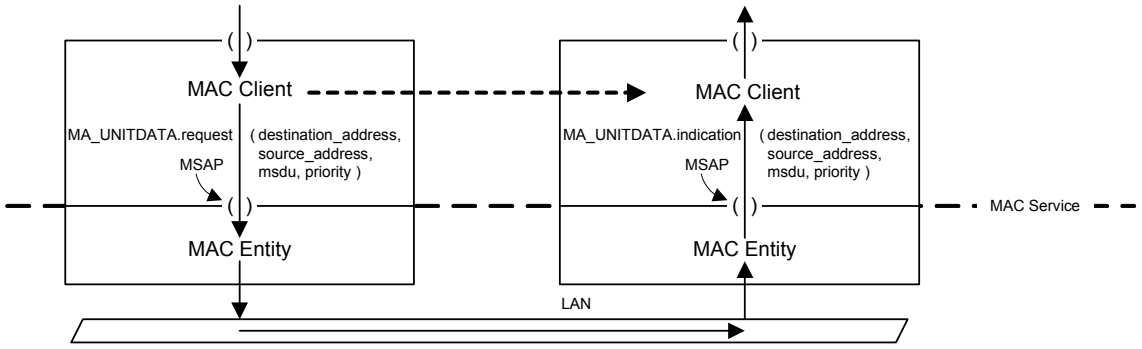

Figure 6-2—MAC entities, the MAC Service, and MAC Service users (clients)

6.1 Basic architectural concepts and terms

6.1.4 Service access points, interface stacks, and ports

Change the first paragraph as shown:

Each service is provided to a single protocol entity at a service access point (SAP) within a system. A given N-entity can support a number of N-SAPs and use one or more (N – 1)-SAPs. The SAP serves to delineate the boundary between protocol specifications and to specify the externally observable relationship between entities operating those protocols. An SAP is an abstraction and does not necessarily correspond to any concrete realization within a system, but an N-entity often associates management counters with the SAP and provides status parameters that can be used by the (N + 1)-entity using the SAP. Examples include the MAC_Operational and ~~operPointToPoint_MAC~~ operPointToPointMAC status parameters (6.6.2, 6.6.3). Each service access point has an identifier with a value that is local to the system and uniquely identifies the service access point within the system.

Replace Figure 6-3 and change the last paragraph of 6.1.4, as shown:

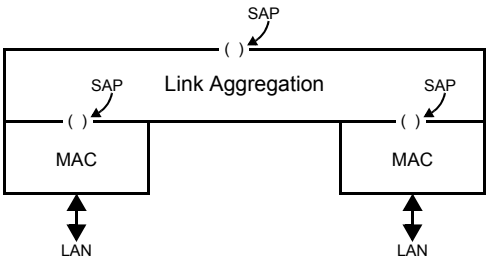

Figure 6-3—An interface stack

The term “port” is used to refer to the interface stack for a given SAP. Often the interface stack comprises a single protocol entity attached to a single LAN, and port can be conveniently used to refer to several aspects of the interface stack, including the physical interface connector for example. In more complex situations—

such as that in Figure 6-3, where the parts of the interface stack provided by the ~~IEEE 802.3~~ MAC entities effectively compose two ports that are then used by link aggregation to provide a single port to its user—the port has to be clearly specified in terms of the particular SAP supported.

6.1.6 MAC Service clients

Change the first paragraph as shown:

The protocol entity that uses the service provided at an MSAP is commonly referred to as client of the MAC Service or of the entity providing the service. Within a Bridge, the MAC Relay Entity is a client of the ISS or EISS, and the LLC Entity is a client of the MAC Service. The LLC Entity is specified in ISO/IEC 8802.2 and provides protocol ~~dentification~~ identification, multiplexing and demultiplexing to and from a number of clients that use a common MSAP. The clients of LLC are also often referred to as clients of the MAC.

6.10 Support of the ISS/EISS by Provider Instance Ports

Change NOTE 1 as shown:

NOTE 1—Higher Layer Entities may interface to any Virtual Instance Port and/or the Provider Instance Port at the service access points represented by any VIP-ISS and/or the PIP-ISS using the Bridge Port Connectivity specified in 8.5.1. Protocol shims such as Connectivity Fault Management Maintenance Points may interface at any VIP-EISS using the EISS Multiplex Entity specified in 6.17, or at the PIP-ISS using the Backbone Service Instance Multiplex Entity specified in 6.18. ~~Figure 6-4~~Figure 26-2 shows a Provider Instance Port with both Bridge Port Connectivity and CFM shims.

Insert the following text at the end of 6.10, immediately before the heading for 6.10.1:

NOTE—There is a 1:1 relationship between a given value of the connection_identifier and a backbone MAC address. This level of indirection is provided to allow the use of the connection_identifier parameter for other purposes by other types of Bridge Ports. The relationship between a given connection_identifier value and a backbone MAC address is maintained as long as any FDB entry contains this value for the connection_identifier. No ageing mechanism other than that specified for Dynamic FDB entries is implied.

10. Multiple Registration Protocol (MRP) and Multiple MAC Registration Protocol (MMRP)

10.8 Structure and encoding of MRP Protocol Data Units

10.8.1 Structure

10.8.1.2 Structure definition

Change the BNF production for VectorAttribute as shown:

VectorAttribute ::= VectorHeader, FirstValue {, Vector}

10.8.2 Encoding of MRPDU parameters

10.8.2.8 Encoding of VectorHeader

Change list item e) and insert new list items, as shown:

e) The number of AttributeEvent values ~~is nonzero, and~~ does not exceed 8191.

f) If the number of AttributeEvent values is zero, FirstValue is ignored and the value is skipped. However, FirstValue is still present, and of the correct length, in octets, as specified by the AttributeLength field (10.8.2.3) for the Attribute to which the message applies.

g) If LeaveAllEvent is a NullLeaveAllEvent, the number of AttributeEvent values is nonzero.

13. Spanning Tree Protocols

13.29 State machine procedures

13.29.32 updtDigest()

Change the text of 13.29.32 as shown:

Updates agreeDigest~~,~~ and agreeN~~, and agreeND~~, following calculation of a new topology or topologies by ISISSPB, and checks for a topology match with the updated values of those variables, as follows.

If agreeDigest is not equal to agreementDigest and:

a) agreeN is equal to ~~agreedND~~agreeND, or
b) agreeN plus one is equal to ~~agreedND~~agreeND;

then:

c) agreeDigest is set equal to agreementDigest, and
d) agreeDigestValid is reset to FALSE, and
e) agreeN is set equal to agreeN plus one.

Additionally, if agreeDigest is now equal to agreementDigest and:

f) agreeDigest equals agreedDigest, and
g) agreedDigestValid is TRUE,

then:

h) if ~~agreeND~~agreedND is not equal to agreedN plus one, then:
   1) ~~agreeND~~agreedND is set equal to agreedN plus one, and
   2) newInfoMsti is set.

and

i) if ~~agreedND~~agreeND is equal to agreeN and agreedMisorder is FALSE, or
j) if ~~agreedND~~agreeND is set equal to agreeN plus one, then:
   1) agreedTopology is set TRUE, and
   2) agreedMisorder is set FALSE;

otherwise, i.e., if (f) and (g) above are not both TRUE:

k) if ~~agreeND~~agreedND is not equal to agreedN, then:
   1) ~~agreeND~~agreedND is set equal to agreedN, and
   2) newInfoMsti is set.

The agreeDigest, agreeN, and ~~agreeND~~agreedND~~,~~ variables determine the values of the Agreement Digest, Agreement Number (AN), and Discarded Agreement Number (DAN), transmitted in SPT BPDU and SPB Hello PDUs. This procedure is used by updtRolesTree() before using updtAgreement() for each SPT, and also by rcvAgreements(), since the latter can rotate the AN sequence window number and thus allow agreeDigest to be updated with agreementDigest.

Wherever newInfoMsti is set in this procedure, transmission of an SPB Hello PDU to convey the updated digest and sequence number information is also requested. SPT BPDUs and SPB Hello PDUs perform additional functions and are subject to different rate limiters, but both convey the Agreement Digest and related information.

17. Management Information Base (MIB)

17.2 Structure of the MIB

17.2.2 Structure of the IEEE8021-BRIDGE MIB

Change the following row of Table 17-3, as shown:

ieee8021BridgeTpPortTable	**dot1dTpPortTable**	12.4.2~~, C.4~~

17.5 Dynamic component and Port creation

17.5.2 Component creation

Insert the following new subclause at the end of 17.5.2, renumbering if necessary:

17.5.2.6 T-component creation

The T-component has no specific component creation rules.

17.7 MIB modules

17.7.2 Definitions for the IEEE8021-BRIDGE MIB module

Delete the existing text of 17.7.2 and insert the following text:

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

-- ============================================================
-- MIB for IEEE 802.1D devices
-- ============================================================
IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE,
    Integer32, Counter64
        FROM SNMPv2-SMI
    RowStatus, MacAddress, TruthValue, TimeInterval
        FROM SNMPv2-TC
    MODULE-COMPLIANCE, OBJECT-GROUP
        FROM SNMPv2-CONF
    ifIndex, InterfaceIndexOrZero, ifGeneralInformationGroup
        FROM IF-MIB
    ieee802dot1mibs, IEEE8021PbbComponentIdentifier,
    IEEE8021BridgePortNumber, IEEE8021PriorityCodePoint,
    IEEE8021BridgePortType, IEEE8021PriorityValue,
    IEEE8021PbbComponentIdentifierOrZero,
    IEEE8021BridgePortNumberOrZero
        FROM IEEE8021-TC-MIB
    SnmpAdminString
        FROM SNMP-FRAMEWORK-MIB
```

```
    systemGroup
        FROM SNMPv2-MIB
    ;

ieee8021BridgeMib MODULE-IDENTITY
    LAST-UPDATED "201208100000Z" -- August 10, 2012
    ORGANIZATION "IEEE 802.1 Working Group"
    CONTACT-INFO
        "  WG-URL: http://grouper.ieee.org/groups/802/1/index.html
         WG-EMail: stds-802-1@ieee.org

          Contact: David Levi
           Postal: C/O IEEE 802.1 Working Group
                   IEEE Standards Association
                   445 Hoes Lane
                   P.O. Box 1331
                   Piscataway
                   NJ 08855-1331
                   USA
           E-mail: STDS-802-1-L@LISTSERV.IEEE.ORG"
    DESCRIPTION
        "The Bridge MIB module for managing devices that support
        IEEE 802.1D.  This MIB module is derived from the IETF
        BRIDGE-MIB, RFC 4188.

        Unless otherwise indicated, the references in this MIB
        module are to IEEE Std 802.1Q-2011.

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

    REVISION     "201208100000Z" -- August 10, 2012
    DESCRIPTION  "Added an enumeration for tComponent in
                  ieee8021BridgeBaseComponentType
                  as part of IEEE Std 802.1Q Cor-2."

    REVISION     "201202150000Z" -- February 15, 2012
    DESCRIPTION  "Extended ieee8021BridgeBaseComponentType to
                  include erComponent and
                  ieee8021BridgeBasePortTypeCapabilities to include
                  stationFacingBridgePort, uplinkAccessPort and
                  uplinkRelayPort.
                  Added tables ieee8021BridgeBaseIfToPortTable and
                  ieee8021BridgePortTable
                  as part of IEEE Std 802.1Qbg."

    REVISION     "201104060000Z" -- April 6, 2011
    DESCRIPTION
         "Modifications to support Remote Customer Service
          Interfaces."
    REVISION     "201102270000Z" -- February 27, 2011
    DESCRIPTION
         "Minor edits to contact information etc. as part of
          2011 revision of IEEE Std 802.1Q."

    REVISION     "200810150000Z" -- October 15, 2008
    DESCRIPTION
         "Initial revision, derived from RFC 4188."
```

```
    ::= { ieee802dot1mibs 2 }

-- ================================================================
-- subtrees in the Bridge MIB
-- ================================================================

ieee8021BridgeNotifications
    OBJECT IDENTIFIER ::= { ieee8021BridgeMib 0 }

ieee8021BridgeObjects
    OBJECT IDENTIFIER ::= { ieee8021BridgeMib 1 }

ieee8021BridgeConformance
    OBJECT IDENTIFIER ::= { ieee8021BridgeMib 2 }

ieee8021BridgeBase
    OBJECT IDENTIFIER ::= { ieee8021BridgeObjects 1 }
ieee8021BridgeTp
    OBJECT IDENTIFIER ::= { ieee8021BridgeObjects 2 }
ieee8021BridgePriority
    OBJECT IDENTIFIER ::= { ieee8021BridgeObjects 3 }
ieee8021BridgeMrp
    OBJECT IDENTIFIER ::= { ieee8021BridgeObjects 4 }
ieee8021BridgeMmrp
    OBJECT IDENTIFIER ::= { ieee8021BridgeObjects 5 }
ieee8021BridgeInternalLan
    OBJECT IDENTIFIER ::= { ieee8021BridgeObjects 6 }
ieee8021BridgeDot1d
    OBJECT IDENTIFIER ::= { ieee8021BridgeObjects 7 }

-- ================================================================
-- the ieee8021BridgeBase subtree
-- ================================================================
-- Implementation of the ieee8021BridgeBase subtree is mandatory
-- for all bridges.
-- ================================================================

-- ================================================================
-- the ieee8021BridgeBaseTable
-- ================================================================
ieee8021BridgeBaseTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgeBaseEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains generic information about every
        bridge component.  All writable objects in this table
        MUST be persistent over power up restart/reboot."
    REFERENCE   "12.4.1"
    ::= { ieee8021BridgeBase 1 }

ieee8021BridgeBaseEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgeBaseEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects containing information for each bridge
        component."
    INDEX  { ieee8021BridgeBaseComponentId }
```



```
    ::= { ieee8021BridgeBaseTable 1 }

Ieee8021BridgeBaseEntry ::=
    SEQUENCE {
        ieee8021BridgeBaseComponentId
            IEEE8021PbbComponentIdentifier,
        ieee8021BridgeBaseBridgeAddress
            MacAddress,
        ieee8021BridgeBaseNumPorts
            Integer32,
        ieee8021BridgeBaseComponentType
            INTEGER,
        ieee8021BridgeBaseDeviceCapabilities
            BITS,
        ieee8021BridgeBaseTrafficClassesEnabled
            TruthValue,
        ieee8021BridgeBaseMmrpEnabledStatus
            TruthValue,
        ieee8021BridgeBaseRowStatus
            RowStatus
    }

ieee8021BridgeBaseComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021BridgeBaseEntry 1 }

ieee8021BridgeBaseBridgeAddress OBJECT-TYPE
    SYNTAX      MacAddress
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The MAC address used by this bridge when it is
        referred to in a unique fashion.  It is recommended
        that this be the numerically smallest MAC address of
        all ports that belong to this bridge.  However, it is
        only required to be unique.  When concatenated with
        ieee8021SpanningTreePriority, a unique BridgeIdentifier
        is formed, which is used in the Spanning Tree Protocol.

        This object may not 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   "12.4.1.1.3 a)"
    ::= { ieee8021BridgeBaseEntry 2 }

ieee8021BridgeBaseNumPorts OBJECT-TYPE
    SYNTAX      Integer32
    UNITS       "ports"
    MAX-ACCESS  read-only
    STATUS      current
```

```
    DESCRIPTION
        "The number of ports controlled by this bridging
        entity."
    REFERENCE   "12.4.1.1.3 c)"
    ::= { ieee8021BridgeBaseEntry 3 }

ieee8021BridgeBaseComponentType OBJECT-TYPE
    SYNTAX      INTEGER {
                    iComponent(1),
                    bComponent(2),
                    cVlanComponent(3),
                    sVlanComponent(4),
                    dBridgeComponent(5),
                    erComponent (6),
                    tComponent (7)
                }
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "Indicates the component type(s) of this bridge.  The
        following component types are possible:

            iComponent(1) - An S-VLAN component of a Backbone
                Edge Bridge which performs encapsulation of customer
                frames.

            bComponent(2) - An S-VLAN component of a Backbone
                Edge Bridge which bundles backbone service instances
                into B-VLANs.

            cVlanComponent(3) - A C-VLAN component of an
                enterprise VLAN bridge or of a Provider Bridge used
                to process C-tagged frames.

            sVlanComponent(4) - An S-VLAN component of a
                Provider Bridge.

            dBridgeComponent(5) - A VLAN unaware component of an
                802.1D bridge.

            erComponent (6) - An Edge Relay component of an EVB Station.

            tComponent (7) - A TPMR component in a Backbone Edge Bridge.

        This object may not 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   "12.3 m)"
    ::= { ieee8021BridgeBaseEntry 4 }

ieee8021BridgeBaseDeviceCapabilities OBJECT-TYPE
    SYNTAX      BITS {
        dot1dExtendedFilteringServices(0),
        dot1dTrafficClasses(1),
        dot1qStaticEntryIndividualPort(2),
        dot1qIVLCapable(3),
        dot1qSVLCapable(4),
```

```
        dot1qHybridCapable(5),
        dot1qConfigurablePvidTagging(6),
        dot1dLocalVlanCapable(7)
    }
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "Indicates the optional parts of IEEE 802.1D and 802.1Q
        that are implemented by this device and are manageable
        through this MIB.  Capabilities that are allowed on a
        per-port basis are indicated in
        ieee8021BridgeBasePortCapabilities.

        dot1dExtendedFilteringServices(0),
                            -- can perform filtering of
                            -- individual multicast addresses
                            -- controlled by MMRP.
        dot1dTrafficClasses(1),
                            -- can map user priority to
                            -- multiple traffic classes.
        dot1qStaticEntryIndividualPort(2),
                            -- dot1qStaticUnicastReceivePort &
                            -- dot1qStaticMulticastReceivePort
                            -- can represent non-zero entries.
        dot1qIVLCapable(3),   -- Independent VLAN Learning (IVL).
        dot1qSVLCapable(4),   -- Shared VLAN Learning (SVL).
        dot1qHybridCapable(5),
                            -- both IVL & SVL simultaneously.
        dot1qConfigurablePvidTagging(6),
                            -- whether the implementation
                            -- supports the ability to
                            -- override the default PVID
                            -- setting and its egress status
                            -- (VLAN-Tagged or Untagged) on
                            -- each port.
        dot1dLocalVlanCapable(7)
                            -- can support multiple local
                            -- bridges, outside of the scope
                            -- of 802.1Q defined VLANs.

        This object may not 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   "12.10.1.1.3 b)"
    ::= { ieee8021BridgeBaseEntry 5 }

ieee8021BridgeBaseTrafficClassesEnabled OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The value true(1) indicates that Traffic Classes are
        enabled on this bridge.  When false(2), the bridge
        operates with a single priority level for all traffic.

        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."
    DEFVAL      { true }
    ::= { ieee8021BridgeBaseEntry 6 }

ieee8021BridgeBaseMmrpEnabledStatus OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The administrative status requested by management for
        MMRP.  The value true(1) indicates that MMRP should
        be enabled on this device, in all VLANs, on all ports
        for which it has not been specifically disabled.  When
        false(2), MMRP is disabled, in all VLANs and on all
        ports, and all MMRP packets 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 MMRP 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."
    DEFVAL      { true }
    ::= { ieee8021BridgeBaseEntry 7 }

ieee8021BridgeBaseRowStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The object indicates the status of an entry, and is used
        to create/delete entries.

        The following objects MUST be set prior to making a new
        entry active:
            ieee8021BridgeBaseBridgeAddress
            ieee8021BridgeBaseComponentType
            ieee8021BridgeBaseDeviceCapabilities
        It is recommended that these three objects not be allowed
        to be modified while the corresponding instance of
        ieee8021BridgeBaseRowStatus object is active(1).

        The following objects are not required to be set before
        making a new entry active (they will take their defaults),
        and they also may be modified while the corresponding
        instance of this object is active(1):
            ieee8021BridgeBaseTrafficClassesEnabled
            ieee8021BridgeBaseMmrpEnabledStatus

        The value of this object and all corresponding instances
        of other objects in this table MUST be retained across
        reinitializations of the management system."
    ::= { ieee8021BridgeBaseEntry 8 }
```



```
-- ============================================================
-- The Generic Bridge Port Table
-- ============================================================
ieee8021BridgeBasePortTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgeBasePortEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains generic information about every
        port that is associated with this bridge.  Transparent,
        and source-route ports are included."
    REFERENCE   "12.4.2"
    ::= { ieee8021BridgeBase 4 }

ieee8021BridgeBasePortEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgeBasePortEntry
    MAX-ACCESS  not-accessible
    STATUS      current

    DESCRIPTION
        "A list of objects containing information for each port
         of the bridge."
    INDEX  { ieee8021BridgeBasePortComponentId,
             ieee8021BridgeBasePort }
    ::= { ieee8021BridgeBasePortTable 1 }

Ieee8021BridgeBasePortEntry ::=
    SEQUENCE {
        ieee8021BridgeBasePortComponentId
            IEEE8021PbbComponentIdentifier,
        ieee8021BridgeBasePort
            IEEE8021BridgePortNumber,
        ieee8021BridgeBasePortIfIndex
            InterfaceIndexOrZero,
        ieee8021BridgeBasePortDelayExceededDiscards
            Counter64,
        ieee8021BridgeBasePortMtuExceededDiscards
            Counter64,
        ieee8021BridgeBasePortCapabilities
            BITS,
        ieee8021BridgeBasePortTypeCapabilities
            BITS,
        ieee8021BridgeBasePortType
            IEEE8021BridgePortType,
        ieee8021BridgeBasePortExternal
            TruthValue,
        ieee8021BridgeBasePortAdminPointToPoint
            INTEGER,
        ieee8021BridgeBasePortOperPointToPoint
            TruthValue,
        ieee8021BridgeBasePortName
            SnmpAdminString
    }

ieee8021BridgeBasePortComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
```

```
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021BridgeBasePortEntry 1 }

ieee8021BridgeBasePort OBJECT-TYPE
    SYNTAX      IEEE8021BridgePortNumber
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The port number of the port for which this entry
        contains bridge management information."
    REFERENCE   "12.4.2.1.2 a)"
    ::= { ieee8021BridgeBasePortEntry 2 }

ieee8021BridgeBasePortIfIndex OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
       "The value of the instance of the IfIndex object,
         defined in the IF-MIB, for the interface corresponding
         to this port, or the value 0 if the port has not been
         bound to an underlying frame source and sink.

         It is an implementation specific decision as to whether this object
         may be modified if it has been created or if 0 is a legal value.

         The underlying IfEntry indexed by this column MUST be persistent
         across reinitializations of the management system."
    ::= { ieee8021BridgeBasePortEntry 3 }

ieee8021BridgeBasePortDelayExceededDiscards OBJECT-TYPE
    SYNTAX      Counter64
    UNITS       "frames"
    MAX-ACCESS  read-only
    STATUS      current
    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.

        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   "12.6.1.1.3 f)"
    ::= { ieee8021BridgeBasePortEntry 4 }

ieee8021BridgeBasePortMtuExceededDiscards OBJECT-TYPE
    SYNTAX      Counter64
    UNITS       "frames"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The number of frames discarded by this port due
```



```
        to an excessive size.  It is incremented by both
        transparent and source route bridges.

        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   "12.6.1.1.3 g)"
    ::= { ieee8021BridgeBasePortEntry 5 }

ieee8021BridgeBasePortCapabilities OBJECT-TYPE
    SYNTAX      BITS {
        dot1qDot1qTagging(0),
        dot1qConfigurableAcceptableFrameTypes(1),
        dot1qIngressFiltering(2)
    }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Indicates the parts of IEEE 802.1D and 802.1Q that are
        optional on a per-port basis, that are implemented by
        this device, and that are manageable through this MIB.

        dot1qDot1qTagging(0), -- supports 802.1Q VLAN tagging of
                              -- frames and MVRP.
        dot1qConfigurableAcceptableFrameTypes(1),
                             -- allows modified values of
                             -- dot1qPortAcceptableFrameTypes.
        dot1qIngressFiltering(2)
                             -- supports the discarding of any
                             -- frame received on a Port whose
                             -- VLAN classification does not
                             -- include that Port in its Member
                             -- set."
    REFERENCE   "12.10.1.1.3 c)"
    ::= { ieee8021BridgeBasePortEntry 6 }

ieee8021BridgeBasePortTypeCapabilities OBJECT-TYPE
    SYNTAX      BITS {
                    customerVlanPort(0),
                    providerNetworkPort(1),
                    customerNetworkPort(2),
                    customerEdgePort(3),
                    customerBackbonePort(4),
                    virtualInstancePort(5),
                    dBridgePort(6),
                    remoteCustomerAccessPort(7),
                    stationFacingBridgePort (8),
                    uplinkAccessPort (9),
                    uplinkRelayPort(10)
                }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Indicates the capabilities of this port.  The corresponding
         instance of ieee8021BridgeBasePortType can potentially take
         any of the values for which the corresponding bit in this
         object is 1.  The possible port types are as follows:
```

```
                customerVlanPort(0) - Indicates the port can be a C-tag
                    aware port of an enterprise VLAN aware bridge.

                providerNetworkPort(1) - 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.

                customerNetworkPort(2) - 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.

                customerEdgePort(3) - 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.

                customerBackbonePort(4) - Indicates the port can be a
                    I-tag aware port of a Backbone Edge Bridge's
                    B-component.

                virtualInstancePort(5) - 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.

                dBridgePort(6) - Indicates the port can be a VLAN-unaware
                    member of an 802.1D bridge.

                remoteCustomerAccessPort(7) - Indicates the port can be an
                    S-tag aware port of a Provider Bridge capable of providing
                    Remote Customer Service Interfaces.

                stationFacingBridgePort(8) - Indicates the station-facing
                    Bridge Port in a EVB Bridge.

                uplinkAccessPort(9)  -  Indicates the uplink access port
                    in an EVB Bridge or EVB station.

                uplinkRelayPort (10)  - Indicates the uplink relay port
                    in an EVB station."

    REFERENCE   "12.16.1.1.3 h4), 12.16.2.1/2,
                 12.13.1.1, 12.13.1.2, 12.15.2.1, 12.15.2.2,
                 12.26.2, 12.26.4.1, 12.26.5.1"
    ::= { ieee8021BridgeBasePortEntry 7 }

ieee8021BridgeBasePortType OBJECT-TYPE
    SYNTAX      IEEE8021BridgePortType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The port type.  This value MUST be persistent over power up
         restart/reboot."
    REFERENCE   "12.16.1.1.3 h4), 12.16.2.1/2,
                 12.13.1.1, 12.13.1.2, 12.15.2.1, 12.15.2.2,
                 12.26.2, 12.26.4.1, 12.26.5.1"
```



```
    ::= { ieee8021BridgeBasePortEntry 8 }

ieee8021BridgeBasePortExternal OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A boolean indicating whether the port is external.  A value of
        true(1) means the port is external.  A value of false(2) means
        the port is internal."
    REFERENCE   "12.16.1.1.3 h4)"
    ::= { ieee8021BridgeBasePortEntry 9 }

ieee8021BridgeBasePortAdminPointToPoint OBJECT-TYPE
    SYNTAX      INTEGER {
                    forceTrue(1),
                    forceFalse(2),
                    auto(3)
                }
    MAX-ACCESS  read-write
    STATUS      current
    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
         6.4.3.  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.

         For a VIP, the adminPointToPointMAC parameter controls
         the mechanism by which the Default Backbone Destination
         parameter for the VIP is determined.  For a backbone
         service instance that includes only 2 VIPs, the value
         may be set to forceTrue(1) which permits dynamic learning
         of the Default Backbone Destination parameter.  For a
         backbone service instance that includes more than 2 VIPs,
         the value MUST be set to ForceFalse(2) or auto(3).

         When this object is set to forceTrue(1) for a VIP, the
         Default Backbone Destination parameter is modified by
         the subsequent M_UNITDATA.indications as specified in
         6.10.1 (and described in 26.4.1).  Whenever the parameter
         is set to forceFalse(2) or auto(3), the value for the
         Default Backbone Destination parameter is set to the
         Backbone Service Instance Group Address for the VIP-ISID.

         The value of this object MUST be retained across
         reinitializations of the management system."
    REFERENCE   "6.6.3, 6.10, 12.8.2.1.3 o), 12.8.2.3.2 f), 26.4.1"
    DEFVAL { forceFalse }
    ::= { ieee8021BridgeBasePortEntry 10 }
```

```
ieee8021BridgeBasePortOperPointToPoint OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "For a port running spanning tree, this object represents
         the operational point-to-point status of the LAN segment
         attached to this port.  It indicates whether a port is
         considered to have a point-to-point connection.
         If adminPointToPointMAC is set to auto(2), then the value
         of operPointToPointMAC is determined in accordance with the
         specific procedures defined for the MAC entity concerned,
         as defined in 6.7.  The value is
         determined dynamically; that is, it is re-evaluated whenever
         the value of adminPointToPointMAC changes, and whenever
         the specific procedures defined for the MAC entity evaluate
         a change in its point-to-point status.

         For a VIP, this object simply reflects the value of the
         corresponding instance of ieee8021BridgeBasePortAdminPointToPoint.
         The value will be true(1) if that object is forceTrue(1), and
         the value will be false(2) if the value of that object is either
         forceFalse(2) or auto(3)."
    REFERENCE   "6.6.3, 6.7, 6.10, 12.8.2.1.3 p), 12.8.2.3.2 f), 26.4.1"
    ::= { ieee8021BridgeBasePortEntry 11 }

ieee8021BridgeBasePortName OBJECT-TYPE
    SYNTAX      SnmpAdminString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
              "A  text  string  of  up  to  32  characters,  of  locally  determined
significance."
    REFERENCE   "12.4.2.1.3 a)"
    ::= { ieee8021BridgeBasePortEntry 12 }

-- ============================================================
-- The Generic Bridge ifIndex  to Port Table
-- ============================================================
ieee8021BridgeBaseIfToPortTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgeBaseIfToPortEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains generic information about every
        ifIndex that is associated with this bridge."
    REFERENCE   "17.2.2"
    ::= { ieee8021BridgeBase 5 }

ieee8021BridgeBaseIfToPortEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgeBaseIfToPortEntry
    MAX-ACCESS  not-accessible
    STATUS      current

    DESCRIPTION
        "A list of objects containing information for each ifIndex
         of the bridge."
    INDEX  {   ifIndex  }
```



```
    ::= { ieee8021BridgeBaseIfToPortTable 1 }

Ieee8021BridgeBaseIfToPortEntry ::=
    SEQUENCE {
        ieee8021BridgeBaseIfIndexComponentId
            IEEE8021PbbComponentIdentifier,
        ieee8021BridgeBaseIfIndexPort
            IEEE8021BridgePortNumber
     }

 ieee8021BridgeBaseIfIndexComponentId     OBJECT-TYPE
     SYNTAX      IEEE8021PbbComponentIdentifier
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
         "The component ID for this ifIndex."
     ::= { ieee8021BridgeBaseIfToPortEntry 1 }

 ieee8021BridgeBaseIfIndexPort            OBJECT-TYPE
     SYNTAX      IEEE8021BridgePortNumber
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
         "The port for this ifIndex."
     ::= { ieee8021BridgeBaseIfToPortEntry 2 }


-- ================================================================
-- port number table section 12.5.1
-- ================================================================

ieee8021BridgePhyPortTable OBJECT-TYPE
   SYNTAX      SEQUENCE OF Ieee8021BridgePhyPortEntry
   MAX-ACCESS  not-accessible
   STATUS      current
   DESCRIPTION
   "A table that contains ISS port number to bridge
    componentID and port number mapping."
   REFERENCE   "12.5.1"
   ::= { ieee8021BridgeBase 6}

ieee8021BridgePhyPortEntry OBJECT-TYPE
   SYNTAX      Ieee8021BridgePhyPortEntry
   MAX-ACCESS  not-accessible
   STATUS      current
   DESCRIPTION
   "A list of objects containing mapping for ISS port
    numbers to bridge componentID and port numbers "
   INDEX  { ieee8021BridgePhyPort }
   ::= { ieee8021BridgePhyPortTable 1 }

   Ieee8021BridgePhyPortEntry ::=
   SEQUENCE {
         ieee8021BridgePhyPort
                  IEEE8021BridgePortNumber,
         ieee8021BridgePhyPortIfIndex
                  InterfaceIndexOrZero,
         ieee8021BridgePhyMacAddress
                  MacAddress,
```

```
          ieee8021BridgePhyPortToComponentId
                   IEEE8021PbbComponentIdentifierOrZero,
          ieee8021BridgePhyPortToInternalPort
                   IEEE8021BridgePortNumberOrZero
   }


ieee8021BridgePhyPort  OBJECT-TYPE
   SYNTAX       IEEE8021BridgePortNumber
   MAX-ACCESS   not-accessible
   STATUS       current
   DESCRIPTION
   "The ISS port."
   REFERENCE   "12.26"
   ::= { ieee8021BridgePhyPortEntry 1 }


ieee8021BridgePhyPortIfIndex  OBJECT-TYPE
    SYNTAX      InterfaceIndexOrZero
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
       "The value of the instance of the IfIndex object,
        defined in the IF-MIB, for the interface corresponding
        to this port, or the value 0 if the port has not been
        bound to an underlying frame source and sink.

        The underlying IfEntry indexed by this column MUST
        be persistent across reinitializations of the
        management system."
    ::= { ieee8021BridgePhyPortEntry 2 }

ieee8021BridgePhyMacAddress OBJECT-TYPE
   SYNTAX      MacAddress
   MAX-ACCESS  read-only
   STATUS      current
   DESCRIPTION  "The MAC address"
   ::= { ieee8021BridgePhyPortEntry 3 }

ieee8021BridgePhyPortToComponentId OBJECT-TYPE
   SYNTAX      IEEE8021PbbComponentIdentifierOrZero
   MAX-ACCESS  read-only
   STATUS      current
   DESCRIPTION
   "The component ID that this ISS port belongs to."

   ::= { ieee8021BridgePhyPortEntry 4 }


ieee8021BridgePhyPortToInternalPort   OBJECT-TYPE
   SYNTAX      IEEE8021BridgePortNumberOrZero
   MAX-ACCESS  read-only
   STATUS      current
   DESCRIPTION
   "The port number to which this ISS port maps to."

   ::= { ieee8021BridgePhyPortEntry 5 }

-- ============================================================
```

```
-- the ieee8021BridgeTp subtree
-- ============================================================
-- This is implemented by those bridges that support the
-- transparent bridging mode.  A transparent bridge will
-- implement this subtree.
-- ============================================================

-- ============================================================
--  Port Table for Transparent Bridges
-- ============================================================

ieee8021BridgeTpPortTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgeTpPortEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains information about every port that
        is associated with this transparent bridge."
    REFERENCE   "12.4.2"
    ::= { ieee8021BridgeTp 1 }

ieee8021BridgeTpPortEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgeTpPortEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects containing information for each port of
         a transparent bridge."
    INDEX   { ieee8021BridgeTpPortComponentId,
              ieee8021BridgeTpPort }
    ::= { ieee8021BridgeTpPortTable 1 }

Ieee8021BridgeTpPortEntry ::=
    SEQUENCE {
        ieee8021BridgeTpPortComponentId
            IEEE8021PbbComponentIdentifier,
        ieee8021BridgeTpPort
            IEEE8021BridgePortNumber,
        ieee8021BridgeTpPortMaxInfo
            Integer32,
        ieee8021BridgeTpPortInFrames
            Counter64,
        ieee8021BridgeTpPortOutFrames
            Counter64,
        ieee8021BridgeTpPortInDiscards
            Counter64
    }

ieee8021BridgeTpPortComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021BridgeTpPortEntry 1 }
```

```
ieee8021BridgeTpPort OBJECT-TYPE
    SYNTAX      IEEE8021BridgePortNumber
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The port number of the port for which this entry
        contains Transparent bridging management information."
    ::= { ieee8021BridgeTpPortEntry 2 }

ieee8021BridgeTpPortMaxInfo OBJECT-TYPE
    SYNTAX      Integer32
    UNITS       "bytes"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The maximum size of the INFO (non-MAC) field that
        this port will receive or transmit."
    ::= { ieee8021BridgeTpPortEntry 3 }

ieee8021BridgeTpPortInFrames OBJECT-TYPE
    SYNTAX      Counter64
    UNITS       "frames"
    MAX-ACCESS  read-only
    STATUS      current
    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.

        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   "12.6.1.1.3 a)"
    ::= { ieee8021BridgeTpPortEntry 4 }

ieee8021BridgeTpPortOutFrames OBJECT-TYPE
    SYNTAX      Counter64
    UNITS       "frames"
    MAX-ACCESS  read-only
    STATUS      current
    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.

        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   "12.6.1.1.3 d)"
```



```
    ::= { ieee8021BridgeTpPortEntry 5 }

ieee8021BridgeTpPortInDiscards OBJECT-TYPE
    SYNTAX      Counter64
    UNITS       "frames"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Count of received valid frames that were discarded
        (i.e., filtered) by the Forwarding Process.

        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   "12.6.1.1.3 c)"
    ::= { ieee8021BridgeTpPortEntry 6 }

-- ================================================================
-- the ieee8021BridgePriority subtree
-- ================================================================

-- ================================================================
-- Port Priority Table
-- ================================================================

ieee8021BridgePortPriorityTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgePortPriorityEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains information about every port that
        is associated with this transparent bridge."
    ::= { ieee8021BridgePriority 1 }

ieee8021BridgePortPriorityEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgePortPriorityEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of Default User Priorities for each port of a
        transparent bridge.  This is indexed by
        ieee8021BridgeBasePortComponentId and
        ieee8021BridgeBasePort."
    AUGMENTS { ieee8021BridgeBasePortEntry }
    ::= { ieee8021BridgePortPriorityTable 1 }

Ieee8021BridgePortPriorityEntry ::=
    SEQUENCE {
        ieee8021BridgePortDefaultUserPriority
            IEEE8021PriorityValue,
        ieee8021BridgePortNumTrafficClasses
            Integer32,
        ieee8021BridgePortPriorityCodePointSelection
            IEEE8021PriorityCodePoint,
        ieee8021BridgePortUseDEI
            TruthValue,
        ieee8021BridgePortRequireDropEncoding
```

```
            TruthValue,
        ieee8021BridgePortServiceAccessPrioritySelection
            TruthValue
    }

ieee8021BridgePortDefaultUserPriority OBJECT-TYPE
    SYNTAX      IEEE8021PriorityValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The default ingress User Priority for this port.  This
        only has effect on media, such as Ethernet, that do not
        support native User Priority.

        The value of this object MUST be retained across
        reinitializations of the management system."
    ::= { ieee8021BridgePortPriorityEntry 1 }

ieee8021BridgePortNumTrafficClasses OBJECT-TYPE
    SYNTAX      Integer32 (1..8)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The number of egress traffic classes supported on this
        port.  This object may optionally be read-only.

        The value of this object MUST be retained across
        reinitializations of the management system."
    ::= { ieee8021BridgePortPriorityEntry 2 }

ieee8021BridgePortPriorityCodePointSelection OBJECT-TYPE
    SYNTAX      IEEE8021PriorityCodePoint
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        " 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, 12.6.2.7"
    ::= { ieee8021BridgePortPriorityEntry 3 }

ieee8021BridgePortUseDEI OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "If the Use_DEI is set to true(1) for the Port 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 the Use_DEI parameter is false(2),
        the DEI shall be transmitted as zero and ignored on receipt.
        The default value of the Use_DEI parameter is false(2)."
    REFERENCE   "12.6.2.12, 12.6.2.13"
    ::= { ieee8021BridgePortPriorityEntry 4 }

ieee8021BridgePortRequireDropEncoding OBJECT-TYPE
    SYNTAX      TruthValue
```



```
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "If a Bridge supports encoding or decoding of drop_eligible
        from the PCP field of a VLAN tag (6.7.3) on any of its Ports,
        then it shall implement a Boolean parameter Require Drop
        Encoding on each of its Ports with default value false(2). 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(1) shall
        be discarded and not transmitted."
    REFERENCE   "12.6.2.14, 12.6.2.15"
    DEFVAL { false }
    ::= { ieee8021BridgePortPriorityEntry 5 }

ieee8021BridgePortServiceAccessPrioritySelection OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "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   "12.6.2.16, 12.6.2.17"
    ::= { ieee8021BridgePortPriorityEntry 6 }

-- ============================================================
-- User Priority Regeneration Table
-- ============================================================

ieee8021BridgeUserPriorityRegenTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgeUserPriorityRegenEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of Regenerated User Priorities for each received
        User Priority on each port of a bridge.  The Regenerated
        User Priority value may be used to index the Traffic
        Class Table for each input port.  This only has effect
        on media that support native User Priority.  The default
        values for Regenerated User Priorities are the same as
        the User Priorities."
    REFERENCE   "6.5"
    ::= { ieee8021BridgePriority 2 }

ieee8021BridgeUserPriorityRegenEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgeUserPriorityRegenEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A mapping of incoming User Priority to a Regenerated
        User Priority."
    INDEX   { ieee8021BridgeBasePortComponentId,
              ieee8021BridgeBasePort,
              ieee8021BridgeUserPriority }
    ::= { ieee8021BridgeUserPriorityRegenTable 1 }

Ieee8021BridgeUserPriorityRegenEntry ::=
```

```
    SEQUENCE {
        ieee8021BridgeUserPriority
            IEEE8021PriorityValue,
        ieee8021BridgeRegenUserPriority
            IEEE8021PriorityValue
    }

ieee8021BridgeUserPriority OBJECT-TYPE
    SYNTAX      IEEE8021PriorityValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The User Priority for a frame received on this port."
    ::= { ieee8021BridgeUserPriorityRegenEntry 1 }

ieee8021BridgeRegenUserPriority OBJECT-TYPE
    SYNTAX      IEEE8021PriorityValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The Regenerated User Priority that the incoming User
        Priority is mapped to for this port.

        The value of this object MUST be retained across
        reinitializations of the management system."
    ::= { ieee8021BridgeUserPriorityRegenEntry 2 }

-- ============================================================
-- Traffic Class Table
-- ============================================================

ieee8021BridgeTrafficClassTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgeTrafficClassEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table mapping evaluated User Priority to Traffic
        Class, for forwarding by the bridge.  Traffic class is a
        number in the range (0..(ieee8021BridgePortNumTrafficClasses-1))."
    REFERENCE   "Table 8-4"
    ::= { ieee8021BridgePriority 3 }

ieee8021BridgeTrafficClassEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgeTrafficClassEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "User Priority to Traffic Class mapping."
    INDEX   { ieee8021BridgeBasePortComponentId,
              ieee8021BridgeBasePort,
              ieee8021BridgeTrafficClassPriority }
    ::= { ieee8021BridgeTrafficClassTable 1 }

Ieee8021BridgeTrafficClassEntry ::=
    SEQUENCE {
        ieee8021BridgeTrafficClassPriority
            IEEE8021PriorityValue,
        ieee8021BridgeTrafficClass
            Integer32
```



```
    }

ieee8021BridgeTrafficClassPriority OBJECT-TYPE
    SYNTAX      IEEE8021PriorityValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The Priority value determined for the received frame.
        This value is equivalent to the priority indicated in
        the tagged frame received, or one of the evaluated
        priorities, determined according to the media-type.
        For untagged frames received from Ethernet media, this
        value is equal to the ieee8021BridgePortDefaultUserPriority value
        for the ingress port.

        For untagged frames received from non-Ethernet media,
        this value is equal to the ieee8021BridgeRegenUserPriority value
        for the ingress port and media-specific user priority."
    ::= { ieee8021BridgeTrafficClassEntry 1 }

ieee8021BridgeTrafficClass OBJECT-TYPE
    SYNTAX      Integer32 (0..7)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The Traffic Class the received frame is mapped to.

        The value of this object MUST be retained across
        reinitializations of the management system."
    ::= { ieee8021BridgeTrafficClassEntry 2 }

-- ============================================================
-- Outbound Access Priority Table
-- ============================================================

ieee8021BridgePortOutboundAccessPriorityTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgePortOutboundAccessPriorityEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table mapping Regenerated User Priority to Outbound
        Access Priority.  This is a fixed mapping for all port
        types, with three options for 802.17 RPR."
    REFERENCE   "6.6.1 and 6.7.3"
    ::= { ieee8021BridgePriority 4 }

ieee8021BridgePortOutboundAccessPriorityEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgePortOutboundAccessPriorityEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Regenerated User Priority to Outbound Access Priority
        mapping."
    INDEX   { ieee8021BridgeBasePortComponentId,
              ieee8021BridgeBasePort,
              ieee8021BridgeRegenUserPriority }
    ::= { ieee8021BridgePortOutboundAccessPriorityTable 1 }

Ieee8021BridgePortOutboundAccessPriorityEntry ::=
```

```
    SEQUENCE {
        ieee8021BridgePortOutboundAccessPriority
            IEEE8021PriorityValue
    }

ieee8021BridgePortOutboundAccessPriority OBJECT-TYPE
    SYNTAX      IEEE8021PriorityValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The Outbound Access Priority the received frame is
        mapped to."
    ::= { ieee8021BridgePortOutboundAccessPriorityEntry 1 }

-- ================================================================
-- ieee8021BridgePortDecodingTable:
-- ================================================================

ieee8021BridgePortDecodingTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgePortDecodingEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains information about Priority Code
        Point Decoding Table for a Port of a provider bridge.
        Alternative values for each table are specified as rows
        in Table 6-4 (6.7.3), with each alternative labeled by
        the number of distinct priorities that can be communicated,
        and the number of these for which drop precedence can
        be communicated.  All writable objects in this table MUST
        be persistent over power up restart/reboot."
    ::= { ieee8021BridgePriority 5 }

ieee8021BridgePortDecodingEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgePortDecodingEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects containing Priority Code Point Decoding
        information for a port of a provider bridge."
    INDEX { ieee8021BridgePortDecodingComponentId,
            ieee8021BridgePortDecodingPortNum,
            ieee8021BridgePortDecodingPriorityCodePointRow,
            ieee8021BridgePortDecodingPriorityCodePoint }
    ::= { ieee8021BridgePortDecodingTable 1 }

Ieee8021BridgePortDecodingEntry ::= SEQUENCE {
      ieee8021BridgePortDecodingComponentId
          IEEE8021PbbComponentIdentifier,
      ieee8021BridgePortDecodingPortNum
          IEEE8021BridgePortNumber,
      ieee8021BridgePortDecodingPriorityCodePointRow
          IEEE8021PriorityCodePoint,
      ieee8021BridgePortDecodingPriorityCodePoint
          Integer32,
      ieee8021BridgePortDecodingPriority
          IEEE8021PriorityValue,
      ieee8021BridgePortDecodingDropEligible
          TruthValue
```



```
}

ieee8021BridgePortDecodingComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021BridgePortDecodingEntry 1 }

ieee8021BridgePortDecodingPortNum OBJECT-TYPE
    SYNTAX      IEEE8021BridgePortNumber
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A unique identifier of a port controlled by this VLAN
        bridging entity."
    ::= { ieee8021BridgePortDecodingEntry 2 }

ieee8021BridgePortDecodingPriorityCodePointRow OBJECT-TYPE
    SYNTAX      IEEE8021PriorityCodePoint
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The specific row in Table 6-3 (6.7.3) indicating the PCP."
    ::= { ieee8021BridgePortDecodingEntry 3 }

ieee8021BridgePortDecodingPriorityCodePoint OBJECT-TYPE
    SYNTAX      Integer32 (0..7)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The specific PCP value in Table 6-3 (6.7.3)."
    ::= { ieee8021BridgePortDecodingEntry 4 }

ieee8021BridgePortDecodingPriority OBJECT-TYPE
    SYNTAX      IEEE8021PriorityValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The specific priority value in Table 6-3 (6.7.3)."
    REFERENCE   "12.6.2.8, 12.6.2.9"
    ::= { ieee8021BridgePortDecodingEntry 5 }

ieee8021BridgePortDecodingDropEligible OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The drop eligibility value in Table 6-3 (6.7.3)."
    REFERENCE   "12.6.2.8, 12.6.2.9"
    ::= { ieee8021BridgePortDecodingEntry 6 }

-- ============================================================
-- ieee8021BridgePortEncodingTable:
-- ============================================================
```

```
ieee8021BridgePortEncodingTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgePortEncodingEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains information about Priority Code
        Point Decoding Table for a Port of a provider bridge.
        Alternative values for each table are specified as rows
        in Table 6-3 (6.7.3), with each alternative labeled by
        the number of distinct priorities that can be communicated,
        and the number of these for which drop precedence can be
        communicated.  All writable objects in this table MUST be
        persistent over power up restart/reboot."
    ::= { ieee8021BridgePriority 6 }

ieee8021BridgePortEncodingEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgePortEncodingEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects containing Priority Code Point Encoding
        information for a port of a provider bridge."
    INDEX { ieee8021BridgePortEncodingComponentId,
            ieee8021BridgePortEncodingPortNum,
            ieee8021BridgePortEncodingPriorityCodePointRow,
            ieee8021BridgePortEncodingPriorityCodePoint,
            ieee8021BridgePortEncodingDropEligible }
    ::= { ieee8021BridgePortEncodingTable 1 }

Ieee8021BridgePortEncodingEntry ::= SEQUENCE {
      ieee8021BridgePortEncodingComponentId
          IEEE8021PbbComponentIdentifier,
      ieee8021BridgePortEncodingPortNum
          IEEE8021BridgePortNumber,
      ieee8021BridgePortEncodingPriorityCodePointRow
          IEEE8021PriorityCodePoint,
      ieee8021BridgePortEncodingPriorityCodePoint
          Integer32,
      ieee8021BridgePortEncodingDropEligible
          TruthValue,
      ieee8021BridgePortEncodingPriority
          IEEE8021PriorityValue
}

ieee8021BridgePortEncodingComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021BridgePortEncodingEntry 1 }

ieee8021BridgePortEncodingPortNum OBJECT-TYPE
    SYNTAX      IEEE8021BridgePortNumber
    MAX-ACCESS  not-accessible
```



```
    STATUS      current
    DESCRIPTION
        "A unique identifier of a port controlled by this VLAN bridging
        entity."
    ::= { ieee8021BridgePortEncodingEntry 2 }

ieee8021BridgePortEncodingPriorityCodePointRow OBJECT-TYPE
    SYNTAX      IEEE8021PriorityCodePoint
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The specific row in Table 6-3 (6.7.3)indicating the PCP row.
         (i.e. 8P0D, 7P1D, 6P2D, 5P3D)"
    ::= { ieee8021BridgePortEncodingEntry 3 }

ieee8021BridgePortEncodingPriorityCodePoint OBJECT-TYPE
    SYNTAX      Integer32 (0..7)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The specific row in Table 6-3 (6.7.3) indicating the PCP.
         (i.e., 0,1,2,3,4,5,6,7)."
    ::= { ieee8021BridgePortEncodingEntry 4 }

ieee8021BridgePortEncodingDropEligible OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The specific row in Table 6-3 (6.7.3) indicating the drop
         eligibility.  A value of true(1) means eligible for drop."
    ::= { ieee8021BridgePortEncodingEntry 5 }

ieee8021BridgePortEncodingPriority OBJECT-TYPE
    SYNTAX      IEEE8021PriorityValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The encoding priority in Table 6-3 (6.7.3)."
    REFERENCE   "12.6.2.10, 12.6.2.11"
    ::= { ieee8021BridgePortEncodingEntry 6 }

-- ============================================================
-- ieee8021BridgeServiceAccessPriorityTable:
-- ============================================================

ieee8021BridgeServiceAccessPriorityTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgeServiceAccessPriorityEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains information about the  Service Access
        Priority Selection 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.  All writable objects in this table MUST
        be persistent over power up restart/reboot."
    ::= { ieee8021BridgePriority 7 }
```

```
ieee8021BridgeServiceAccessPriorityEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgeServiceAccessPriorityEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of objects containing information about the Service
         Access Priority Selection function for a provider bridge."
    INDEX { ieee8021BridgeServiceAccessPriorityComponentId,
            ieee8021BridgeServiceAccessPriorityPortNum,
            ieee8021BridgeServiceAccessPriorityReceived }
    ::= { ieee8021BridgeServiceAccessPriorityTable 1 }

Ieee8021BridgeServiceAccessPriorityEntry ::= SEQUENCE {
      ieee8021BridgeServiceAccessPriorityComponentId
          IEEE8021PbbComponentIdentifier,
      ieee8021BridgeServiceAccessPriorityPortNum
          IEEE8021BridgePortNumber,
      ieee8021BridgeServiceAccessPriorityReceived
          IEEE8021PriorityValue,
      ieee8021BridgeServiceAccessPriorityValue
          IEEE8021PriorityValue
}

ieee8021BridgeServiceAccessPriorityComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021BridgeServiceAccessPriorityEntry 1 }

ieee8021BridgeServiceAccessPriorityPortNum OBJECT-TYPE
    SYNTAX      IEEE8021BridgePortNumber
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A unique identifier of a port controlled by this VLAN bridging
        entity."
    ::= { ieee8021BridgeServiceAccessPriorityEntry 2 }

ieee8021BridgeServiceAccessPriorityReceived OBJECT-TYPE
    SYNTAX      IEEE8021PriorityValue
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The default received priority value in Table 6-3 (6.7.3).
         (i.e., 0,1,2,3,4,5,6,7)"
    ::= { ieee8021BridgeServiceAccessPriorityEntry 3 }

ieee8021BridgeServiceAccessPriorityValue OBJECT-TYPE
    SYNTAX      IEEE8021PriorityValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The regenerated priority value in Table 6-3 (6.7.3).
         (i.e., 0,1,2,3,4,5,6,7)"
```



```
    REFERENCE   "12.6.2.18, 12.6.2.19"
    ::= { ieee8021BridgeServiceAccessPriorityEntry 4 }

-- ============================================================
-- the ieee8021BridgeMrp subtree
-- ============================================================

-- ============================================================
-- The MRP Port Table
-- ============================================================

ieee8021BridgePortMrpTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgePortMrpEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table of MRP control information about every bridge
        port.  This is indexed by ieee8021BridgeBasePortComponentId
        and ieee8021BridgeBasePort."
    ::= { ieee8021BridgeMrp 1 }

ieee8021BridgePortMrpEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgePortMrpEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "MRP control information for a bridge port."
    AUGMENTS { ieee8021BridgeBasePortEntry }
    ::= { ieee8021BridgePortMrpTable 1 }

Ieee8021BridgePortMrpEntry ::=
    SEQUENCE {
        ieee8021BridgePortMrpJoinTime
            TimeInterval,
        ieee8021BridgePortMrpLeaveTime
            TimeInterval,
        ieee8021BridgePortMrpLeaveAllTime
            TimeInterval
    }

ieee8021BridgePortMrpJoinTime OBJECT-TYPE
    SYNTAX      TimeInterval
    UNITS       "centi-seconds"
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The MRP Join time, in centiseconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    DEFVAL      { 20 }
    ::= { ieee8021BridgePortMrpEntry 1 }

ieee8021BridgePortMrpLeaveTime OBJECT-TYPE
    SYNTAX      TimeInterval
    UNITS       "centi-seconds"
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
```

```
        "The MRP Leave time, in centiseconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    DEFVAL      { 60 }
    ::= { ieee8021BridgePortMrpEntry 2 }

ieee8021BridgePortMrpLeaveAllTime OBJECT-TYPE
    SYNTAX      TimeInterval
    UNITS       "centi-seconds"
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The MRP LeaveAll time, in centiseconds.

        The value of this object MUST be retained across
        reinitializations of the management system."
    DEFVAL      { 1000 }
    ::= { ieee8021BridgePortMrpEntry 3 }

-- ============================================================
-- The MMRP Port Configuration and Status Table
-- ============================================================

ieee8021BridgePortMmrpTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgePortMmrpEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table of MMRP control and status information about
        every bridge port.  Augments the ieee8021BridgeBasePortTable."
    ::= { ieee8021BridgeMmrp 1 }

ieee8021BridgePortMmrpEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgePortMmrpEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "MMRP control and status information for a bridge port."
    AUGMENTS { ieee8021BridgeBasePortEntry }
    ::= { ieee8021BridgePortMmrpTable 1 }

Ieee8021BridgePortMmrpEntry ::=
    SEQUENCE {
        ieee8021BridgePortMmrpEnabledStatus
            TruthValue,
        ieee8021BridgePortMmrpFailedRegistrations
            Counter64,
        ieee8021BridgePortMmrpLastPduOrigin
            MacAddress,
        ieee8021BridgePortRestrictedGroupRegistration
            TruthValue
    }

ieee8021BridgePortMmrpEnabledStatus OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
```



```
        "The administrative state of MMRP operation on this port.  The
        value true(1) indicates that MMRP is enabled on this port
        in all VLANs as long as ieee8021BridgeMmrpEnabledStatus is
        also true(1).  A value of false(2) indicates that MMRP is
        disabled on this port in all VLANs: any MMRP packets received
        will be silently discarded, and no MMRP 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 MMRP protocol operation if
        ieee8021BridgeMmrpEnabledStatus
        also indicates the value true(1).  This object affects
        all MMRP Applicant and Registrar state machines on this
        port.  A transition from false(2) to true(1) will
        cause a reset of all MMRP state machines on this port.

        The value of this object MUST be retained across
        reinitializations of the management system."
    DEFVAL      { true }
    ::= { ieee8021BridgePortMmrpEntry 1 }

ieee8021BridgePortMmrpFailedRegistrations OBJECT-TYPE
    SYNTAX      Counter64
    UNITS       "failed MMRP registrations"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The total number of failed MMRP registrations, for any
        reason, in all VLANs, on this port."
    ::= { ieee8021BridgePortMmrpEntry 2 }

ieee8021BridgePortMmrpLastPduOrigin OBJECT-TYPE
    SYNTAX      MacAddress
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The Source MAC Address of the last MMRP message
        received on this port."
    ::= { ieee8021BridgePortMmrpEntry 3 }

ieee8021BridgePortRestrictedGroupRegistration OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The state of Restricted Group Registration on this port.
         If the value of this control is true(1), then creation
         of a new dynamic entry is permitted only if there is a
         Static Filtering Entry for the VLAN concerned, in which
         the Registrar Administrative Control value is Normal
         Registration.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "11.2.3.2.3, 12.11.1.3"
    DEFVAL      { false }
    ::= { ieee8021BridgePortMmrpEntry 4 }

-- ============================================================
-- I-LAN Interface configuration table
```

```
-- ============================================================

ieee8021BridgeILanIfTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgeILanIfEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
         "This table is a sparse augmentation of ifTable and controls
          the creation of the I-LAN Interface.  An I-LAN Interface is
          used to create internal connections between bridge ports in a
          802.1 device.  An I-LAN Interfaces can be directly associated
          with a set of bridge ports.  An I-LAN Interfaces can also be
          used as a stacking interface to relate other interfaces before
          association to bridge ports.

          For example, an I-LAN interface can be created to link traffic
          between a PIP and a CBP.  In this case a CBP is created on the
          B-Component and the CBP's related IfEntry is stacked upon the
          IfEntry of the I-LAN.  The PIP is stacked upon the I-LAN using
          the IfStackTable.  Finally, a VIP is created on the I-Component
          and is associated with the PIP, thus completing the path from
          the I-Component's MAC relay to the CBP on the B-Component.

          Entries in this table MUST be persistent over power up
          restart/reboot."
    REFERENCE   "17.3.2.2"
    ::= { ieee8021BridgeInternalLan 1 }

ieee8021BridgeILanIfEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgeILanIfEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Each entry consists of a Row Status to control creation."
    INDEX       { ifIndex }
    ::= { ieee8021BridgeILanIfTable 1 }

Ieee8021BridgeILanIfEntry ::=
    SEQUENCE {
        ieee8021BridgeILanIfRowStatus
            RowStatus
    }

ieee8021BridgeILanIfRowStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "This object is used to create and delete entries in this
         table and the Interface table."
    ::= { ieee8021BridgeILanIfEntry 1 }

-- ============================================================
-- 802.1D Dynamic Port Creation table
-- ============================================================

ieee8021BridgeDot1dPortTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021BridgeDot1dPortEntry
    MAX-ACCESS  not-accessible
```

```
    STATUS      current
    DESCRIPTION
         "This table provides the capability to dynamically create and
          delete 802.1D bridge ports.  Each entry in this table MUST
          have a corresponding entry in the ieee8021BridgeBasePortTable.

          Entries in this table MUST be persistent over power up
          restart/reboot."
    REFERENCE   "17.5.3"
    ::= { ieee8021BridgeDot1d 1 }

ieee8021BridgeDot1dPortEntry OBJECT-TYPE
    SYNTAX      Ieee8021BridgeDot1dPortEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Each entry consists of a Row Status to control creation."
    INDEX { ieee8021BridgeBasePortComponentId,
            ieee8021BridgeBasePort }
    ::= { ieee8021BridgeDot1dPortTable 1 }

Ieee8021BridgeDot1dPortEntry ::=
    SEQUENCE {
        ieee8021BridgeDot1dPortRowStatus
            RowStatus
    }

ieee8021BridgeDot1dPortRowStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "This object is used to create and delete entries in this
         table and the ieee8021BridgeBasePortTable."
    ::= { ieee8021BridgeDot1dPortEntry 1 }


-- ============================================================
-- IEEE 802.1D MIB - Conformance Information
-- ============================================================

ieee8021BridgeCompliances
    OBJECT IDENTIFIER ::= { ieee8021BridgeConformance 1 }
ieee8021BridgeGroups
    OBJECT IDENTIFIER ::= { ieee8021BridgeConformance 2 }

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

-- ============================================================
-- the ieee8021BridgeBase group
-- ============================================================

ieee8021BridgeBaseBridgeGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgeBaseBridgeAddress,
        ieee8021BridgeBaseNumPorts,
        ieee8021BridgeBaseComponentType
```

```
    }
    STATUS      current
    DESCRIPTION
        "Bridge level information for this device."
    ::= { ieee8021BridgeGroups 1 }

ieee8021BridgeBasePortGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgeBasePortIfIndex,
        ieee8021BridgeBasePortDelayExceededDiscards,
        ieee8021BridgeBasePortMtuExceededDiscards,
        ieee8021BridgeBasePortType,
        ieee8021BridgeBasePortExternal,
        ieee8021BridgeBasePortAdminPointToPoint,
        ieee8021BridgeBasePortOperPointToPoint,
        ieee8021BridgeBasePortName
    }
    STATUS      current
    DESCRIPTION
        "Information for each port on this device."
    ::= { ieee8021BridgeGroups 2 }

ieee8021BridgeCapGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgeBaseDeviceCapabilities,
        ieee8021BridgeBasePortCapabilities,
        ieee8021BridgeBasePortTypeCapabilities
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects indicating the optional
        capabilities of the device."
    ::= { ieee8021BridgeGroups 3 }

ieee8021BridgeDeviceMmrpGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgeBaseMmrpEnabledStatus
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing device-level control
        for the Multicast Filtering extended bridge services."
    ::= { ieee8021BridgeGroups 4 }

-- ============================================================
-- the ieee8021BridgeTp group
-- ============================================================

ieee8021BridgeTpPortGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgeTpPortMaxInfo,
        ieee8021BridgeTpPortInFrames,
        ieee8021BridgeTpPortOutFrames,
        ieee8021BridgeTpPortInDiscards
    }
    STATUS      current
    DESCRIPTION
        "Dynamic Filtering Database information for each port of
        the Bridge."
```



```
    ::= { ieee8021BridgeGroups 6 }

-- ============================================================
-- Bridge Priority groups
-- ============================================================

ieee8021BridgeDevicePriorityGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgeBaseTrafficClassesEnabled
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing device-level control
        for the Priority services."
    ::= { ieee8021BridgeGroups 7 }

ieee8021BridgeDefaultPriorityGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgePortDefaultUserPriority,
        ieee8021BridgePortPriorityCodePointSelection,
        ieee8021BridgePortUseDEI,
        ieee8021BridgePortRequireDropEncoding,
        ieee8021BridgePortServiceAccessPrioritySelection
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects defining the User Priority
        applicable to each port for media that do not support
        native User Priority."
    ::= { ieee8021BridgeGroups 8 }

ieee8021BridgeRegenPriorityGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgeRegenUserPriority
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects defining the User Priorities
        applicable to each port for media that support native
        User Priority."
    ::= { ieee8021BridgeGroups 9 }

ieee8021BridgePriorityGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgePortNumTrafficClasses,
        ieee8021BridgeTrafficClass
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects defining the traffic classes
        within a bridge for each evaluated User Priority."
    ::= { ieee8021BridgeGroups 10 }

ieee8021BridgeAccessPriorityGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgePortOutboundAccessPriority
    }
    STATUS      current
    DESCRIPTION
```

```
        "A collection of objects defining the media-dependent
        outbound access level for each priority."
    ::= { ieee8021BridgeGroups 11 }

ieee8021BridgePortMrpGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgePortMrpJoinTime,
        ieee8021BridgePortMrpLeaveTime,
        ieee8021BridgePortMrpLeaveAllTime
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing port level control
        and status information for MRP operation."
    ::= { ieee8021BridgeGroups 12 }

ieee8021BridgePortMmrpGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgePortMmrpEnabledStatus,
        ieee8021BridgePortMmrpFailedRegistrations,
        ieee8021BridgePortMmrpLastPduOrigin,
        ieee8021BridgePortRestrictedGroupRegistration
    }
    STATUS      deprecated
    DESCRIPTION
        "A collection of objects providing port level control
        and status information for MMRP operation."
    ::= { ieee8021BridgeGroups 13 }

ieee8021BridgePortDecodingGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgePortDecodingPriority,
        ieee8021BridgePortDecodingDropEligible
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing statistics counters for
        decoding priority and drop eligibility for bridge ports."
    ::= { ieee8021BridgeGroups 14 }

ieee8021BridgePortEncodingGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgePortEncodingPriority
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing statistics counters for
        encoding priority and drop eligibility for bridge ports."
    ::= { ieee8021BridgeGroups 15 }

ieee8021BridgeServiceAccessPriorityGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgeServiceAccessPriorityValue
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing statistics
        counters for service access priority."
    ::= { ieee8021BridgeGroups 16 }
```

```
-- ============================================================
-- Internal LAN group
-- ============================================================

ieee8021BridgeInternalLANGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgeILanIfRowStatus
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing control of internal
        LAN configuration."
    ::= { ieee8021BridgeGroups 17 }

-- ============================================================
-- Bridge Creation Group
-- ============================================================

ieee8021BridgeCreatableBaseBridgeGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgeBaseRowStatus
    }
    STATUS      current
    DESCRIPTION
        "Controls the managment system directed creation of
         Bridge Components."
    ::= { ieee8021BridgeGroups 18 }

-- ============================================================
-- Dot1d Dynamic Port Creation group
-- ============================================================

ieee8021BridgeDot1dDynamicPortCreationGroup OBJECT-GROUP
    OBJECTS {
        ieee8021BridgeDot1dPortRowStatus
    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing dynamic creation and
        deletion of 802.1D bridge ports."
    ::= { ieee8021BridgeGroups 19 }


-- ============================================================
-- Bridge interface index to port table group
-- ============================================================

ieee8021BridgeBaseIfToPortGroup OBJECT-GROUP
    OBJECTS {
    ieee8021BridgeBaseIfIndexComponentId,
    ieee8021BridgeBaseIfIndexPort

    }
    STATUS      current
    DESCRIPTION
        "A collection of objects providing a map between interface
        index and component ID and bridge ports."
    ::= { ieee8021BridgeGroups 20 }
```

```
-- ============================================================
-- Bridge interface index to component group
-- ============================================================
ieee8021BridgePhyPortGroup   OBJECT-GROUP
   OBJECTS {
   ieee8021BridgePhyPortIfIndex,
   ieee8021BridgePhyMacAddress,
   ieee8021BridgePhyPortToComponentId,
   ieee8021BridgePhyPortToInternalPort
   }
   STATUS      current
   DESCRIPTION
   "The collection of objects used to represent a ISS port management objects."
   ::= { ieee8021BridgeGroups 21 }


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

ieee8021BridgeCompliance1 MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION
        "The compliance statement for devices supporting bridging
        services as defined in 802.1D-2004.  Such devices support
        path cost values of 32-bits, and bridge and port priority
        values are more restricted than in 802.1D-1995.

        Full support for the 802.1D management objects requires
        implementation of the objects listed in the systemGroup
        from the SNMPv2-MIB [RFC3418], as well as the objects
        listed in the ifGeneralInformationGroup from the
        IF-MIB [RFC2863]."

    MODULE SNMPv2-MIB -- The SNMPv2-MIB, RFC 3418
        MANDATORY-GROUPS {
            systemGroup
        }

    MODULE IF-MIB -- The interfaces MIB, RFC 2863
        MANDATORY-GROUPS {
            ifGeneralInformationGroup
        }

    MODULE
        MANDATORY-GROUPS {
            ieee8021BridgeBaseBridgeGroup,
            ieee8021BridgeBasePortGroup
        }

    GROUP ieee8021BridgeCreatableBaseBridgeGroup
    DESCRIPTION
        "Implementation of this group is mandatory for
         bridges that allow management systems to add and delete
         bridge components.  Provider Backbone Edge Bridges would
         typically fall in this category."
```



```
    GROUP   ieee8021BridgeTpPortGroup
    DESCRIPTION
        "Implementation of this group is mandatory for
        bridges that support the transparent bridging
        mode.  A transparent bridge will implement
        this group."

    GROUP   ieee8021BridgeInternalLANGroup
    DESCRIPTION
        "Implementation of this group is optional.  It can be supported
        to provide control over the relationship between interfaces and
        bridge ports where such relationships are more complex than a
        simple 1-to-1 mapping."

    GROUP   ieee8021BridgeDot1dDynamicPortCreationGroup
    DESCRIPTION
        "Implementation of this group is optional.  It can be supported
        to provide the ability to dynamically create and deleted 802.1D
        bridge ports."

    GROUP  ieee8021BridgeBaseIfToPortGroup
    DESCRIPTION
         "A collection of objects providing a map between interface
        index and component ID and bridge ports."
    GROUP   ieee8021BridgePhyPortGroup
    DESCRIPTION
         "A colelction of objects providing a map between port numbers
         to the component id, interface index."

    ::= { ieee8021BridgeCompliances 3 }


ieee8021BridgeCompliance MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION
        "The compliance statement for devices supporting bridging
        services as defined in 802.1D-2004.  Such devices support
        path cost values of 32-bits, and bridge and port priority
        values are more restricted than in 802.1D-1995.

        Full support for the 802.1D management objects requires
        implementation of the objects listed in the systemGroup
        from the SNMPv2-MIB [RFC3418], as well as the objects
        listed in the ifGeneralInformationGroup from the
        IF-MIB [RFC2863]."

    MODULE SNMPv2-MIB -- The SNMPv2-MIB, RFC 3418
        MANDATORY-GROUPS {
            systemGroup
        }

    MODULE IF-MIB -- The interfaces MIB, RFC 2863
        MANDATORY-GROUPS {
            ifGeneralInformationGroup
        }

    MODULE
        MANDATORY-GROUPS {
```

```
            ieee8021BridgeBaseBridgeGroup,
            ieee8021BridgeBasePortGroup
        }

    GROUP ieee8021BridgeCreatableBaseBridgeGroup
    DESCRIPTION
        "Implementation of this group is mandatory for
         bridges that allow management systems to add and delete
         bridge components.  Provider Backbone Edge Bridges would
         typically fall in this category."

    GROUP   ieee8021BridgeTpPortGroup
    DESCRIPTION
        "Implementation of this group is mandatory for
        bridges that support the transparent bridging
        mode.  A transparent bridge will implement
        this group."

    GROUP   ieee8021BridgeInternalLANGroup
    DESCRIPTION
        "Implementation of this group is optional.  It can be supported
        to provide control over the relationship between interfaces and
        bridge ports where such relationships are more complex than a
        simple 1-to-1 mapping."

    GROUP   ieee8021BridgeDot1dDynamicPortCreationGroup
    DESCRIPTION
        "Implementation of this group is optional.  It can be supported
        to provide the ability to dynamically create and deleted 802.1D
        bridge ports."

    ::= { ieee8021BridgeCompliances 1 }

ieee8021BridgePriorityAndMulticastFilteringCompliance MODULE-COMPLIANCE
    STATUS  deprecated
    DESCRIPTION
        "The compliance statement for device support of Priority
        and Multicast Filtering extended bridging services."

    MODULE
        MANDATORY-GROUPS { ieee8021BridgeCapGroup }

        GROUP       ieee8021BridgeDeviceMmrpGroup
        DESCRIPTION
            "This group is mandatory for devices supporting the MMRP
            application, defined by IEEE 802.1D Extended Filtering
            Services."

        GROUP       ieee8021BridgeDevicePriorityGroup
        DESCRIPTION
            "This group is mandatory only for devices supporting
            the priority forwarding operations defined by IEEE
            802.1D."

        GROUP       ieee8021BridgeDefaultPriorityGroup
        DESCRIPTION
            "This group is mandatory only for devices supporting
            the priority forwarding operations defined by the
            extended bridge services with media types, such as
```



```
        Ethernet, that do not support native User Priority."

    GROUP       ieee8021BridgeRegenPriorityGroup
    DESCRIPTION
        "This group is mandatory only for devices supporting
        the priority forwarding operations defined by IEEE 802.1D
        and that have interface media types that support
        native User Priority, e.g., IEEE 802.17."

    GROUP       ieee8021BridgePriorityGroup
    DESCRIPTION
        "This group is mandatory only for devices supporting
        the priority forwarding operations defined by IEEE 802.1D."

    GROUP       ieee8021BridgeAccessPriorityGroup
    DESCRIPTION
        "This group is optional and is relevant only for devices
        supporting the priority forwarding operations defined by
        IEEE 802.1D and that have interface media types that
        support native Access Priority, e.g., IEEE 802.17."

    GROUP       ieee8021BridgePortMrpGroup
    DESCRIPTION
        "This group is mandatory for devices supporting any
        of the MRP applications: e.g., MMRP, defined by the
        extended filtering services of 802.1D; or MVRP,
        defined by 802.1Q (refer to the Q-BRIDGE-MIB for
        conformance statements for MVRP)."

    GROUP       ieee8021BridgePortMmrpGroup
    DESCRIPTION
        "This group is mandatory for devices supporting the
        MMRP application, as defined by IEEE 802.1D Extended
        Filtering Services."

    GROUP       ieee8021BridgePortDecodingGroup
    DESCRIPTION
        "This group is optional and supports Priority Code Point
        Decoding Table for a Port of a provider bridge."

    GROUP       ieee8021BridgePortEncodingGroup
    DESCRIPTION
        "This group is optional and supports Priority Code Point
        Encoding Table for a Port of a provider bridge."

    GROUP       ieee8021BridgeServiceAccessPriorityGroup
    DESCRIPTION
        "This group is optional and supports Priority Code Point
        Encoding Table for a Port of a provider bridge."

    OBJECT      ieee8021BridgePortNumTrafficClasses
    MIN-ACCESS  read-only
    DESCRIPTION
        "Write access is not required."

    OBJECT      ieee8021BridgeTrafficClass
    MIN-ACCESS  read-only
    DESCRIPTION
        "Write access is not required."
```

```
        OBJECT      ieee8021BridgeRegenUserPriority
        MIN-ACCESS  read-only
        DESCRIPTION
            "Write access is not required."

       ::= { ieee8021BridgeCompliances 2 }

END
```

17.7.6 Definitions for the IEEE8021-MSTP MIB module

Delete the existing text of 17.7.6 and insert the following text:

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

IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE, Integer32, Counter64,
    Unsigned32, TimeTicks
        FROM SNMPv2-SMI
    TruthValue, RowStatus
        FROM SNMPv2-TC
    ieee802dot1mibs, IEEE8021PbbComponentIdentifier,
    IEEE8021BridgePortNumber, IEEE8021VlanIndex,
    IEEE8021MstIdentifier
        FROM IEEE8021-TC-MIB
    BridgeId
        FROM BRIDGE-MIB
    SnmpAdminString
        FROM SNMP-FRAMEWORK-MIB
    MODULE-COMPLIANCE, OBJECT-GROUP
        FROM SNMPv2-CONF;

ieee8021MstpMib MODULE-IDENTITY
    LAST-UPDATED "201208100000Z" -- August 10, 2012
    ORGANIZATION "IEEE 802.1 Working Group"
    CONTACT-INFO
        "  WG-URL: http://grouper.ieee.org/groups/802/1/index.html
         WG-EMail: stds-802-1@ieee.org

          Contact: David Levi
           Postal: C/O IEEE 802.1 Working Group
                   IEEE Standards Association
                   445 Hoes Lane
                   P.O. Box 1331
                   Piscataway
                   NJ 08855-1331
                   USA
           E-mail: STDS-802-1-L@LISTSERV.IEEE.ORG"
    DESCRIPTION
        "The Bridge MIB modules for managing devices that support
         IEEE 802.1Q multiple spanning tree groups.
```



```
          Unless otherwise indicated, the references in this MIB
          module are to IEEE 802.1Q-2011.

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

    REVISION     "201208100000Z" -- August 10, 2012
    DESCRIPTION
         "Updated cross references to other clauses, particularly
         Clause 13, as part of 802.1Q Cor-2."

    REVISION     "201112120000Z" -- December 12, 2011
    DESCRIPTION
         "Deprecated ieee8021MstpFidToMstiTable for an identical
          ieee8021MstpFidToMstiV2Table to add 4095 to the range
          of ieee8021MstpFidToMstiV2Fid  and to add 0 and 4095 to
          the range of ieee8021MstpFidToMstiV2MstId for 802.1aq.
          Deprecated ieee8021MstpVlanTable for an identical
          ieee8021MstpVlanV2Table to add 0 & 4095 to the range
          of ieee8021MstpVlanV2MstId for 802.1aq"

    REVISION     "201103230000Z" -- March 23, 2011
    DESCRIPTION
         "Minor edits to contact information, correction to range of
          ieee8021MstpCistMaxHops and addition of fragile bridge
          as part of 2011 revision of IEEE Std 802.1Q."

    REVISION     "200810150000Z" -- October 15, 2008
    DESCRIPTION
        "Initial version."
    ::= { ieee802dot1mibs 6 }

ieee8021MstpNotifications  OBJECT IDENTIFIER ::= { ieee8021MstpMib 0 }
ieee8021MstpObjects        OBJECT IDENTIFIER ::= { ieee8021MstpMib 1 }
ieee8021MstpConformance    OBJECT IDENTIFIER ::= { ieee8021MstpMib 2 }

-- ============================================================
-- MSTP CIST Table
-- ============================================================

ieee8021MstpCistTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpCistEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The Common and Internal Spanning Tree (CIST) Table. Each row in
         the table represents information regarding a Bridge's Bridge
         Protocol Entity for the CIST.

         Note that entries will exist in this table only for bridge
         components for which the corresponding instance of
         ieee8021SpanningTreeVersion (from the IEEE8021-SPANNING-TREE-MIB)
         has a value of mstp(2).

         This table contains objects corresponding to the following items
         from 12.8.1.1 and 12.8.1.3 of IEEE 802.1Q-2005, and the
         802.1ah amendement.  Some of those items are provided in the
         IEEE8021-SPANNING-TREE-MIB as noted below.
```

```
            From 12.8.1.1:
                Items a), c), o), p), and q) are defined in this table
                The remaining items are covered in the
                IEEE8021-SPANNING-TREE-MIB:
                    b) ieee8021SpanningTreeTimeSinceTopologyChange
                    c) ieee8021SpanningTreeTopChanges
                    e) ieee8021SpanningTreeDesignatedRoot
                    f) ieee8021SpanningTreeRootCost
                    g) ieee8021SpanningTreeRootPort
                    h) ieee8021SpanningTreeMaxAge
                    i) ieee8021SpanningTreeForwardDelay
                    j) ieee8021SpanningTreeBridgeMaxAge
                    k) ieee8021SpanningTreeBridgeHelloTime
                    l) ieee8021SpanningTreeBridgeForwardDelay
                    m) ieee8021SpanningTreeHoldTime
                    n) ieee8021SpanningTreeVersion
            From 12.8.1.3:
                Item g) is defined in this table
                The remaining items are covered in the
                IEEE8021-SPANNING-TREE-MIB:
                    a) ieee8021SpanningTreeBridgeMaxAge
                    b) ieee8021SpanningTreeBridgeHelloTime
                    c) ieee8021SpanningTreeBridgeForwardDelay
                    d) ieee8021SpanningTreePriority
                    e) ieee8021SpanningTreeVersion
                    f) ieee8021RstpStpExtTxHoldCount"
        REFERENCE   "12.8.1.1, 12.8.1.3"
        ::= { ieee8021MstpObjects 1 }

ieee8021MstpCistEntry OBJECT-TYPE
        SYNTAX      Ieee8021MstpCistEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "A CIST Table entry."
        INDEX { ieee8021MstpCistComponentId }
        ::= { ieee8021MstpCistTable 1 }

Ieee8021MstpCistEntry ::= SEQUENCE {
        ieee8021MstpCistComponentId             IEEE8021PbbComponentIdentifier,
        ieee8021MstpCistBridgeIdentifier        BridgeId,
        ieee8021MstpCistTopologyChange          TruthValue,
        ieee8021MstpCistRegionalRootIdentifier  BridgeId,
        ieee8021MstpCistPathCost                Unsigned32,
        ieee8021MstpCistMaxHops                 Integer32
}

ieee8021MstpCistComponentId OBJECT-TYPE
        SYNTAX      IEEE8021PbbComponentIdentifier
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The component identifier is used to distinguish between the
            multiple virtual bridge instances within a PBB.  In simple
            situations where there is only a single component the default
            value is 1."
        ::= { ieee8021MstpCistEntry 1 }
```

```
ieee8021MstpCistBridgeIdentifier OBJECT-TYPE
    SYNTAX      BridgeId
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The Bridge Identifier for the CIST."
    REFERENCE   "9.2.5 of IEEE Std 802.1D-2004"
    ::= { ieee8021MstpCistEntry 2 }

ieee8021MstpCistTopologyChange OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an STP Bridge, the value of the Topology Change parameter
        (14.8.1.1.3, item d of IEEE Std 802.1D, 2004 Edition), or in
        an RSTP or MSTP Bridge, asserted if the tcWhile timer for any
        Port for the CIST is non-zero."
    REFERENCE   "14.8.1.1.3:d of IEEE 802.1D-2004"
    ::= { ieee8021MstpCistEntry 3 }

ieee8021MstpCistRegionalRootIdentifier OBJECT-TYPE
    SYNTAX      BridgeId
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the CIST Regional Root Identifier parameter,
         i.e. the Bridge Identifier of the current CIST Regional Root."
    REFERENCE   "13.16.4"
    ::= { ieee8021MstpCistEntry 4 }

ieee8021MstpCistPathCost OBJECT-TYPE
    SYNTAX      Unsigned32 (0..2147483647)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the CIST Path Cost parameter, i.e. the CIST
         path cost from the transmitting Bridge to the CIST Regional Root.
         The sum (about 20 possible out of the given range) of multiple
         port path costs. Also, if the 'transmitting Bridge' is
         the 'CIST Regional Root', then this value could be zero."
    ::= { ieee8021MstpCistEntry 5 }

ieee8021MstpCistMaxHops OBJECT-TYPE
    SYNTAX      Integer32 (6..40)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the MaxHops parameter.

        The value of this object MUST be retained across
        reinitializations of the management system."
    REFERENCE   "13.26.4"
    ::= { ieee8021MstpCistEntry 6 }

-- ============================================================
-- ieee8021MstpTable:
-- ============================================================
```

```
ieee8021MstpTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the MSTP Table. Each row in the Table
         represents information regarding a Bridge's Bridge Protocol
         Entity for the specified Spanning Tree instance.

         Entries in this table MUST be retained across
         reinitializations of the management system.

         Note that entries can be created in this table only for bridge
         components for which the corresponding instance of
         ieee8021SpanningTreeVersion (from the IEEE8021-SPANNING-TREE-MIB)
         has a value of mstp(2)."
    REFERENCE   "12.8.1.2, 12.8.1.4, 12.12.3.2, 12.12.1"
    ::= { ieee8021MstpObjects 2 }

ieee8021MstpEntry OBJECT-TYPE
    SYNTAX      Ieee8021MstpEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A MSTP Table entry."
    INDEX { ieee8021MstpComponentId, ieee8021MstpId }
    ::= { ieee8021MstpTable 1 }

Ieee8021MstpEntry ::= SEQUENCE {
      ieee8021MstpComponentId              IEEE8021PbbComponentIdentifier,
      ieee8021MstpId                       IEEE8021MstIdentifier,
      ieee8021MstpBridgeId                 BridgeId,
      ieee8021MstpTimeSinceTopologyChange  TimeTicks,
      ieee8021MstpTopologyChanges          Counter64,
      ieee8021MstpTopologyChange           TruthValue,
      ieee8021MstpDesignatedRoot           BridgeId,
      ieee8021MstpRootPathCost             Integer32,
      ieee8021MstpRootPort                 IEEE8021BridgePortNumber,
      ieee8021MstpBridgePriority           Integer32,
      ieee8021MstpVids0                    OCTET STRING,
      ieee8021MstpVids1                    OCTET STRING,
      ieee8021MstpVids2                    OCTET STRING,
      ieee8021MstpVids3                    OCTET STRING,
      ieee8021MstpRowStatus                RowStatus
}

ieee8021MstpComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
       "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021MstpEntry 1 }

ieee8021MstpId OBJECT-TYPE
    SYNTAX      IEEE8021MstIdentifier
```

```
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, this parameter is the MSTID, i.e. the
         identifier of a Spanning Tree (or MST) Instance."
    ::= { ieee8021MstpEntry 2 }

ieee8021MstpBridgeId OBJECT-TYPE
    SYNTAX      BridgeId
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Bridge Identifier for the MSTI."
    REFERENCE   "13.26.2"
    ::= { ieee8021MstpEntry 3 }

ieee8021MstpTimeSinceTopologyChange OBJECT-TYPE
    SYNTAX      TimeTicks
    UNITS       "centi-seconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, count in seconds of the time elapsed since
         tcWhile was last non-zero for any Port for the MSTI."
    REFERENCE   "13.25.9"
    ::= { ieee8021MstpEntry 4 }

ieee8021MstpTopologyChanges OBJECT-TYPE
    SYNTAX      Counter64
    UNITS       "topology changes"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, count of the times tcWhile has been
         non-zero for any Port for the MSTI since the Bridge was powered
         on or initialized."
    REFERENCE   "13.25.9"
    ::= { ieee8021MstpEntry 5 }

ieee8021MstpTopologyChange OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Topology Change parameter value: true(1)
         if tcWhile is non-zero for any Port for the MSTI."
    REFERENCE   "13.25.9"
    ::= { ieee8021MstpEntry 6 }

ieee8021MstpDesignatedRoot OBJECT-TYPE
    SYNTAX      BridgeId
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Designated Root parameter value, i.e. the
         Bridge Identifier of the Root Bridge for the MSTI."
    REFERENCE   "13.27.20"
    ::= { ieee8021MstpEntry 7 }
```

```
ieee8021MstpRootPathCost OBJECT-TYPE
    SYNTAX      Integer32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Root Path Cost parameter value, i.e. the
         path cost from the transmitting Bridge to the Root Bridge for
         the MSTI."
    REFERENCE   "13.27.20"
    ::= { ieee8021MstpEntry 8 }

ieee8021MstpRootPort OBJECT-TYPE
    SYNTAX      IEEE8021BridgePortNumber
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Root Port parameter value, i.e. the Root
         Port for the MSTI."
    REFERENCE   "13.26.9"
    ::= { ieee8021MstpEntry 9 }

ieee8021MstpBridgePriority OBJECT-TYPE
    SYNTAX      Integer32 (0..61440)
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Bridge Priority parameter value for the
         MSTI, i.e. the four most significant bits of the Bridge Identifier
         for the MSTI."
    REFERENCE   "13.26.2"
    ::= { ieee8021MstpEntry 10 }

ieee8021MstpVids0 OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(128))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object contains the first 1024 bits of the 4096 bit vector
         indicating which VIDs are assigned to this MSTID.  The high order
         bit of the first octet corresponds to the first bit of the vector,
         while the low order bit of the last octet corresponds to the last
         bit of this portion of the vector.  A bit that is on (equal to 1)
         indicates that the corresponding VID is assigned to this MSTID."
    ::= { ieee8021MstpEntry 11 }

ieee8021MstpVids1 OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(128))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object contains the second 1024 bits of the 4096 bit vector
         indicating which VIDs are assigned to this MSTID.  The high order
         bit of the first octet corresponds to the first bit of this
         portion of the vector, while the low order bit of the last octet
         corresponds to the last bit of this portion of the vector.  A bit
         that is on (equal to 1) indicates that the corresponding VID is
         assigned to this MSTID."
    ::= { ieee8021MstpEntry 12 }
```



```
ieee8021MstpVids2 OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(128))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object contains the third 1024 bits of the 4096 bit vector
         indicating which VIDs are assigned to this MSTID.  The high order
         bit of the first octet corresponds to the first bit of this
         portion of the vector, while the low order bit of the last octet
         corresponds to the last bit of this portion of the vector.  A bit
         that is on (equal to 1) indicates that the corresponding VID is
         assigned to this MSTID."
    ::= { ieee8021MstpEntry 13 }

ieee8021MstpVids3 OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(128))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object contains the fourth 1024 bits of the 4096 bit vector
         indicating which VIDs are assigned to this MSTID.  The high order
         bit of the first octet corresponds to the first bit of this
         portion of the vector, while the low order bit of the last octet
         corresponds to the last bit of this portion of the vector.  A bit
         that is on (equal to 1) indicates that the corresponding VID is
         assigned to this MSTID."
    ::= { ieee8021MstpEntry 14 }

ieee8021MstpRowStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The status of the row.

         Read SNMPv2-TC (RFC2579) for an
         explanation of the possible values this object can take.

         The writable columns in a row can not be changed if the row
         is active. All columns must have a valid value before a row
         can be activated."
    ::= { ieee8021MstpEntry 15 }

-- ============================================================
-- ieee8021MstpCistPortTable:
-- ============================================================

ieee8021MstpCistPortTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpCistPortEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The CIST Port Table. Each row in the Table represents information
         regarding a specific Port within the Bridge's Bridge Protocol
         Entity, for the CIST.

         The values of all writable objects in this table MUST be
         retained across reinitializations of the management system.
```

```
            Note that entries will exist in this table only for bridge
            components for which the corresponding instance of
            ieee8021SpanningTreeVersion (from the IEEE8021-SPANNING-TREE-MIB)
            has a value of mstp(2).

            This table contains objects corresponding to the following items
            from 12.8.2.1, 12.8.2.3, and 12.8.1.5 of IEEE 802.1Q-2005, and the
            802.1ah amendement.  Some of those items are provided in the
            IEEE8021-SPANNING-TREE-MIB as noted below.

            From 12.8.2.1:
                Items a), d), e), and i) through w) are defined in this table
                The remaining items are covered in the
                IEEE8021-SPANNING-TREE-MIB:
                    b) ieee8021SpanningTreePortState
                    c) ieee8021SpanningTreePortPriority
                    d) ieee8021SpanningTreePortPathCost32,
                    f) ieee8021SpanningTreePortDesignatedCost
                    g) ieee8021SpanningTreePortDesignatedBridge
                    h) ieee8021SpanningTreePortDesignatedPort
            From 12.8.2.3:
                Items a), b), and d) through h) are defined in this table
                    (item a is the index)
                The remaining items are covered in the
                IEEE8021-SPANNING-TREE-MIB:
                    b) ieee8021SpanningTreePortPathCost,
                    c) ieee8021SpanningTreePortPriority
            From 12.8.2.5:
                All items are defined in this table
            From 802.1ah 12.8.2.1:
                Items u), v), w), and x) are defined in this table
            From 802.1ah 12.8.2.3:
                Items i), j), k), and l) are defined in this table"
        REFERENCE   "12.8.2.1, 12.8.2.3, 12.8.2.5"
        ::= { ieee8021MstpObjects 3 }

    ieee8021MstpCistPortEntry OBJECT-TYPE
        SYNTAX      Ieee8021MstpCistPortEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "A CIST Port Table entry."
        INDEX { ieee8021MstpCistPortComponentId, ieee8021MstpCistPortNum }
        ::= { ieee8021MstpCistPortTable 1 }

    Ieee8021MstpCistPortEntry ::= SEQUENCE {
        ieee8021MstpCistPortComponentId          IEEE8021PbbComponentIdentifier,
        ieee8021MstpCistPortNum                  IEEE8021BridgePortNumber,
        ieee8021MstpCistPortUptime               TimeTicks,
        ieee8021MstpCistPortAdminPathCost        Integer32,
        ieee8021MstpCistPortDesignatedRoot       BridgeId,
        ieee8021MstpCistPortTopologyChangeAck    TruthValue,
        ieee8021MstpCistPortHelloTime            Integer32,
        ieee8021MstpCistPortAdminEdgePort        TruthValue,
        ieee8021MstpCistPortOperEdgePort         TruthValue,
        ieee8021MstpCistPortMacEnabled           TruthValue,
        ieee8021MstpCistPortMacOperational       TruthValue,
        ieee8021MstpCistPortRestrictedRole       TruthValue,
        ieee8021MstpCistPortRestrictedTcn        TruthValue,
```



```
    ieee8021MstpCistPortRole                INTEGER,
    ieee8021MstpCistPortDisputed            TruthValue,
    ieee8021MstpCistPortCistRegionalRootId  BridgeId,
    ieee8021MstpCistPortCistPathCost        Unsigned32,
    ieee8021MstpCistPortProtocolMigration   TruthValue,
    ieee8021MstpCistPortEnableBPDURx        TruthValue,
    ieee8021MstpCistPortEnableBPDUTx        TruthValue,
    ieee8021MstpCistPortPseudoRootId        BridgeId,
    ieee8021MstpCistPortIsL2Gp              TruthValue
}

ieee8021MstpCistPortComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021MstpCistPortEntry 1 }

ieee8021MstpCistPortNum OBJECT-TYPE
    SYNTAX      IEEE8021BridgePortNumber
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The Port's Port Number parameter value for the CIST, i.e. the
         number of the Bridge Port for the CIST."
    ::= { ieee8021MstpCistPortEntry 2 }

ieee8021MstpCistPortUptime OBJECT-TYPE
    SYNTAX      TimeTicks
    UNITS       "centi-seconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The Port's Uptime parameter value for the CIST, i.e. the count
         in seconds of the time elapsed since the Port was last reset or
         initialized (BEGIN, Annex E)."
    ::= { ieee8021MstpCistPortEntry 3 }

ieee8021MstpCistPortAdminPathCost OBJECT-TYPE
    SYNTAX      Integer32 (0..200000000)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The administratively assigned value for the contribution
         of this port to the path cost of paths toward the spanning
         tree root.

         Writing a value of '0' assigns the automatically calculated
         default Path Cost value to the port.  If the default Path
         Cost is being used, this object returns '0' when read.

         This complements the object ieee8021MstpCistPortPathCost,
         which returns the operational value of the path cost.

         The value of this object MUST be retained across
```

```
         reinitializations of the management system."
    REFERENCE   "13.27.25, 17.13.11 of IEEE Std 802.1D"
    ::= { ieee8021MstpCistPortEntry 4 }

ieee8021MstpCistPortDesignatedRoot OBJECT-TYPE
    SYNTAX      BridgeId
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The CIST Regional Root Identifier component of the Port's port
         priority vector, as defined in 13.10, for the CIST."
    REFERENCE   "13.25.7"
    ::= { ieee8021MstpCistPortEntry 5 }

ieee8021MstpCistPortTopologyChangeAck OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The Port's Topology Change Acknowledge parameter value.
         True(1) if a Configuration Message with a topology change
         acknowledge flag set is to be transmitted. "
    REFERENCE   "17.19.41 of IEEE Std 802.1D"
    ::= { ieee8021MstpCistPortEntry 6 }

ieee8021MstpCistPortHelloTime OBJECT-TYPE
    SYNTAX      Integer32 (100..1000)
    UNITS       "centi-seconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The Port's Hello Time timer parameter value, for the CIST.
         In centi-seconds"
    REFERENCE   "13.27.48, 17.19.22 of IEEE Std 802.1D"
    ::= { ieee8021MstpCistPortEntry 7 }

ieee8021MstpCistPortAdminEdgePort OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In a Bridge that supports the identification of edge ports, the
         Port's Admin Edge Port parameter value, for the CIST."
    REFERENCE   "17.13.1 of IEEE Std 802.1D"
    DEFVAL      { true }
    ::= { ieee8021MstpCistPortEntry 8 }

ieee8021MstpCistPortOperEdgePort OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In a Bridge that supports the identification of edge ports, the
         Port's operational Edge Port parameter value, for the CIST.
         True(1) if it is an Oper Edge Port."
    REFERENCE   "17.19.17 of IEEE Std 802.1D"
    ::= { ieee8021MstpCistPortEntry 9 }

ieee8021MstpCistPortMacEnabled OBJECT-TYPE
```



```
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In a Bridge that supports the MAC Enabled parameter, the current
         state of the MAC Enabled parameter.
         True(1) indicates that adminstratively the MAC is set as if it
         was connected to a point-to-point LAN."
    REFERENCE   "12.8.2.1.3 p)"
    ::= { ieee8021MstpCistPortEntry 10 }

ieee8021MstpCistPortMacOperational OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In a Bridge that supports the MAC Operational parameter, the
         current state of the MAC Operational parameter.
         True(1) indicates the MAC is operational."
    REFERENCE   "12.8.2.1.3 q)"
    ::= { ieee8021MstpCistPortEntry 11 }

ieee8021MstpCistPortRestrictedRole OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The current state of the restrictedRole parameter for the Port.
         True(1) causes the Port not to be selected as Root Port for the
         CIST or any MSTI. "
    REFERENCE   "13.27.64"
    ::= { ieee8021MstpCistPortEntry 12 }

ieee8021MstpCistPortRestrictedTcn OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The current state of the restrictedTcn parameter for the Port.
         True(1) causes the Port not to propagate topology changes to
         other Ports."
    REFERENCE   "13.27.65"
    ::= { ieee8021MstpCistPortEntry 13 }

ieee8021MstpCistPortRole OBJECT-TYPE
    SYNTAX      INTEGER {
                    root(1),
                    alternate(2),
                    designated(3),
                    backup(4)
                }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The current Port Role for the Port (i.e., Root, Alternate,
         Designated, or Backup), for the CIST."
    REFERENCE   "12.8.2.1.3 v)"
    ::= { ieee8021MstpCistPortEntry 14 }
```

```
ieee8021MstpCistPortDisputed OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The current value of the disputed variable for the CIST for
         the Port.  A value of true(1) indicates that the disputed
         variable is set.  A value of false(2) indicates that the
         agreed variable is cleared."
    REFERENCE   "13.27.22, and 17.19.6 of IEEE Std 802.1D"
    ::= { ieee8021MstpCistPortEntry 15 }

ieee8021MstpCistPortCistRegionalRootId OBJECT-TYPE
    SYNTAX      BridgeId
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the CIST Regional Root Identifier, i.e. the
         Bridge Identifier of the current CIST Regional Root, for the CIST."
    REFERENCE   "13.9:c, 13.10, 13.27.47"
    ::= { ieee8021MstpCistPortEntry 16 }

ieee8021MstpCistPortCistPathCost OBJECT-TYPE
    SYNTAX      Unsigned32 (0..2147483647)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the CIST Internal Root Path Cost, i.e. the
         CIST path cost from the transmitting Bridge to the CIST Regional
         Root, for the CIST.

         The sum (about 20 possible out of the given range) of multiple
         port path costs. Also, if the 'the transmitting Bridge' is
         'the CIST Regional Root', then this value could be zero."
    REFERENCE   "13.9:d, 13.10, 13.27.47"
    ::= { ieee8021MstpCistPortEntry 17 }

ieee8021MstpCistPortProtocolMigration OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the current value of the mcheck variable for
         the Port.  A value of true(1) forces the state machine to
         perform functions as per 17.19.13."
    REFERENCE   "17.19.13 of IEEE Std 802.1D"
    ::= { ieee8021MstpCistPortEntry 18 }

ieee8021MstpCistPortEnableBPDURx OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the enableBPDUrx parameter value.  A value
        of false(2) indicates that BPDUs are ignored."
    REFERENCE   "13.27.23"
    DEFVAL { true }
    ::= { ieee8021MstpCistPortEntry 19 }
```



```
ieee8021MstpCistPortEnableBPDUTx OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the enableBPDUtx parameter value.  A value
        of false(2) indicates that BPDUs are not transmitted."
    REFERENCE   "13.27.24"
    DEFVAL { true }
    ::= { ieee8021MstpCistPortEntry 20 }

ieee8021MstpCistPortPseudoRootId OBJECT-TYPE
    SYNTAX      BridgeId
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the pseudoRootId parameter value."
    REFERENCE   "13.27.51"
    ::= { ieee8021MstpCistPortEntry 21 }

ieee8021MstpCistPortIsL2Gp OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the isL2gp parameter value.  A value of
        true(1) indicates this is an L2GP port."
    REFERENCE   "13.27.26"
    DEFVAL { false }
    ::= { ieee8021MstpCistPortEntry 22 }

-- ============================================================
-- ieee8021MstpPortTable:
-- ============================================================

ieee8021MstpPortTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpPortEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The MSTP Port Table. Each row in the Table represents information
         regarding a specific Port within the Bridge's Bridge Protocol
         Entity, for a given MSTI.

         The values of all writable objects in this table MUST be
         retained across reinitializations of the management system.

         Note that entries will exist in this table only for bridge
         components for which the corresponding instance of
         ieee8021SpanningTreeVersion (from the IEEE8021-SPANNING-TREE-MIB)
         has a value of mstp(2)."
    REFERENCE   "12.8.2.2, 12.8.2.4"
    ::= { ieee8021MstpObjects 4 }

ieee8021MstpPortEntry OBJECT-TYPE
    SYNTAX      Ieee8021MstpPortEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
```

```
        "A MSTP Port Table entry."
    INDEX { ieee8021MstpPortComponentId,
            ieee8021MstpPortMstId,
            ieee8021MstpPortNum }
    ::= { ieee8021MstpPortTable 1 }

Ieee8021MstpPortEntry ::= SEQUENCE {
      ieee8021MstpPortComponentId       IEEE8021PbbComponentIdentifier,
      ieee8021MstpPortMstId             IEEE8021MstIdentifier,
      ieee8021MstpPortNum               IEEE8021BridgePortNumber,
      ieee8021MstpPortUptime            TimeTicks,
      ieee8021MstpPortState             INTEGER,
      ieee8021MstpPortPriority          Integer32,
      ieee8021MstpPortPathCost          Integer32,
      ieee8021MstpPortDesignatedRoot    BridgeId,
      ieee8021MstpPortDesignatedCost    Integer32,
      ieee8021MstpPortDesignatedBridge  BridgeId,
      ieee8021MstpPortDesignatedPort    IEEE8021BridgePortNumber,
      ieee8021MstpPortRole              INTEGER,
      ieee8021MstpPortDisputed          TruthValue
}

ieee8021MstpPortComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021MstpPortEntry 1 }

ieee8021MstpPortMstId OBJECT-TYPE
    SYNTAX      IEEE8021MstIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, this parameter is the MSTID, i.e. the
         identifier of a Spanning Tree (or MST) Instance."
    ::= { ieee8021MstpPortEntry 2 }

ieee8021MstpPortNum OBJECT-TYPE
    SYNTAX      IEEE8021BridgePortNumber
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Port's Port Number parameter value for
         the MSTI, i.e. the number of the Bridge Port for the MSTI."
    ::= { ieee8021MstpPortEntry 3 }

ieee8021MstpPortUptime OBJECT-TYPE
    SYNTAX      TimeTicks
    UNITS       "centi-seconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Port's Uptime parameter value for the
         MSTI, i.e. the count in seconds of the time elapsed since the
```

```
         Port was last reset or initialized (BEGIN, Annex E)."
    ::= { ieee8021MstpPortEntry 4 }

ieee8021MstpPortState OBJECT-TYPE
    SYNTAX      INTEGER {
                    disabled(1),
                    listening(2),
                    learning(3),
                    forwarding(4),
                    blocking(5)
                }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the current state of the Port (i.e., Disabled,
         Listening, Learning, Forwarding, or Blocking), for the MSTI."
    REFERENCE   "13.38, and 17.10 of IEEE Std 802.1D"
    ::= { ieee8021MstpPortEntry 5 }

ieee8021MstpPortPriority OBJECT-TYPE
    SYNTAX      Integer32 (0..240)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Port's Port Priority parameter value for
         the MSTI, i.e. the priority field for the Port Identifier for the
         Port for the MSTI."
    REFERENCE   "13.27.47"
    ::= { ieee8021MstpPortEntry 6 }

ieee8021MstpPortPathCost OBJECT-TYPE
    SYNTAX      Integer32 (1..200000000)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Port's Port Path Cost parameter value for
         the MSTI."
    REFERENCE   "13.27.33"
    ::= { ieee8021MstpPortEntry 7 }

ieee8021MstpPortDesignatedRoot OBJECT-TYPE
    SYNTAX      BridgeId
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Regional Root Identifier component of the
         Port's MSTI port priority vector, as defined in 13.11, for the MSTI."
    REFERENCE   "13.27.47"
    ::= { ieee8021MstpPortEntry 8 }

ieee8021MstpPortDesignatedCost OBJECT-TYPE
    SYNTAX      Integer32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Internal Root Path Cost component of the
         Port's MSTI port priority vector, as defined in 13.11, for the MSTI."
    REFERENCE   "13.27.47"
    ::= { ieee8021MstpPortEntry 9 }
```

```
ieee8021MstpPortDesignatedBridge OBJECT-TYPE
    SYNTAX      BridgeId
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Designated Bridge Identifier component of
         the Port's MSTI port priority vector, as defined in 13.11, for
         the MSTI."
    REFERENCE   "13.27.47"
    ::= { ieee8021MstpPortEntry 10 }

ieee8021MstpPortDesignatedPort OBJECT-TYPE
    SYNTAX      IEEE8021BridgePortNumber
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Designated Port Identifier component of the
         Port's MSTI port priority vector, as defined in 13.11, for the MSTI."
    REFERENCE   "13.27.47"
    ::= { ieee8021MstpPortEntry 11 }

ieee8021MstpPortRole OBJECT-TYPE
    SYNTAX      INTEGER {
                    root(1),
                    alternate(2),
                    designated(3),
                    backup(4)
                }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the current Port Role for the Port (i.e., Root,
         Alternate, Designated, or Backup), for the MSTI."
    ::= { ieee8021MstpPortEntry 12 }

ieee8021MstpPortDisputed OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the current value of the disputed variable for
         the MSTI for the Port."
    REFERENCE   "13.27.22, and 17.19.6 of IEEE Std 802.1D"
    ::= { ieee8021MstpPortEntry 13 }

-- ============================================================
-- ieee8021MstpFidToMstiTable  deprecated
-- see ieee8021MstpFidToMstiV2Table below
-- ============================================================

ieee8021MstpFidToMstiTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpFidToMstiEntry
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "In an MSTP Bridge, the fixed-length FID to MSTID Allocation Table
         entry. Each entry in the Table corresponds to a FID, and the value
         of the entry specifies the MSTID of the spanning tree to which the
```



```
            set of VLANs supported by that FID are assigned. A value of zero
            in an entry specifies that the set of VLANs supported by that FID
            are assigned to the CST.

            The values of all writable objects in this table MUST be
            retained across reinitializations of the management system.

            Note that entries will exist in this table only for bridge
            components for which the corresponding instance of
            ieee8021SpanningTreeVersion (from the IEEE8021-SPANNING-TREE-MIB)
            has a value of mstp(2)."
        REFERENCE   "12.12.2"
        ::= { ieee8021MstpObjects 5 }

ieee8021MstpFidToMstiEntry OBJECT-TYPE
        SYNTAX      Ieee8021MstpFidToMstiEntry
        MAX-ACCESS  not-accessible
        STATUS      deprecated
        DESCRIPTION
            "In an MSTP Bridge, a FID to MSTID Allocation Table entry."
        INDEX { ieee8021MstpFidToMstiComponentId, ieee8021MstpFidToMstiFid }
        ::= { ieee8021MstpFidToMstiTable 1 }

Ieee8021MstpFidToMstiEntry ::= SEQUENCE {
      ieee8021MstpFidToMstiComponentId  IEEE8021PbbComponentIdentifier,
      ieee8021MstpFidToMstiFid          Unsigned32,
      ieee8021MstpFidToMstiMstId        IEEE8021MstIdentifier
}

ieee8021MstpFidToMstiComponentId OBJECT-TYPE
        SYNTAX      IEEE8021PbbComponentIdentifier
        MAX-ACCESS  not-accessible
        STATUS      deprecated
        DESCRIPTION
            "The component identifier is used to distinguish between the
            multiple virtual bridge instances within a PBB.  In simple
            situations where there is only a single component the default
            value is 1."
        ::= { ieee8021MstpFidToMstiEntry 1 }

ieee8021MstpFidToMstiFid OBJECT-TYPE
        SYNTAX      Unsigned32 (1..4094)
        MAX-ACCESS  not-accessible
        STATUS      deprecated
        DESCRIPTION
            "In an MSTP Bridge, the FID of the entry in the FID to MSTID
             Allocation Table."
        ::= { ieee8021MstpFidToMstiEntry 2 }

ieee8021MstpFidToMstiMstId OBJECT-TYPE
        SYNTAX      IEEE8021MstIdentifier
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "In an MSTP Bridge, the MSTID to which the FID (of the entry in
             the FID to MSTID Allocation Table) is to be allocated."
        ::= { ieee8021MstpFidToMstiEntry 3 }

-- ============================================================
```

```
-- ieee8021MstpFidToMstiV2Table
-- ============================================================

ieee8021MstpFidToMstiV2Table OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpFidToMstiV2Entry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the fixed-length FID to MSTID Allocation Table
         entry. Each entry in the Table corresponds to a FID, and the value
         of the entry specifies the MSTID of the spanning tree to which the
         set of VLANs supported by that FID are assigned. A value of zero
         in an entry specifies that the set of VLANs supported by that FID
         are assigned to the CST.

         The values of all writable objects in this table MUST be
         retained across reinitializations of the management system.

         Note that entries will exist in this table only for bridge
         components for which the corresponding instance of
         ieee8021SpanningTreeVersion (from the IEEE8021-SPANNING-TREE-MIB)
         has a value of mstp(2)."
    REFERENCE   "12.12.2"
    ::= { ieee8021MstpObjects 9 }

ieee8021MstpFidToMstiV2Entry OBJECT-TYPE
    SYNTAX      Ieee8021MstpFidToMstiV2Entry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, a FID to MSTID Allocation Table entry."
    INDEX { ieee8021MstpFidToMstiV2ComponentId, ieee8021MstpFidToMstV2Fid }
    ::= { ieee8021MstpFidToMstiV2Table 1 }

Ieee8021MstpFidToMstiV2Entry ::= SEQUENCE {
      ieee8021MstpFidToMstiV2ComponentId  IEEE8021PbbComponentIdentifier,
      ieee8021MstpFidToMstiV2Fid          Unsigned32,
      ieee8021MstpFidToMstiV2MstId        Unsigned32
}

ieee8021MstpFidToMstiV2ComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021MstpFidToMstiV2Entry 1 }

ieee8021MstpFidToMstiV2Fid OBJECT-TYPE
    SYNTAX      Unsigned32 (1..4095)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the FID of the entry in the FID to MSTID
         Allocation Table."
    ::= { ieee8021MstpFidToMstiV2Entry 2 }
```



```
ieee8021MstpFidToMstiV2MstId OBJECT-TYPE
    SYNTAX      Unsigned32 (0..4095)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the MSTID to which the FID (of the entry in
         the FID to MSTID Allocation Table) is to be allocated.
         In an SPT Bridge, the value 4095 is used to indicate unused
         (non-filtering) FIDs."
    ::= { ieee8021MstpFidToMstiV2Entry 3 }

-- ============================================================
-- ieee8021MstpVlanTable  deprecated
-- see ieee8021MstpVlanV2Table below
-- ============================================================

ieee8021MstpVlanTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpVlanEntry
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "In an MSTP Bridge, the fixed-length (4096 elements), read-only,
         MST Configuration Table. Its elements are derived from other
         configuration information held by the Bridge; specifically, the
         current state of the VID to FID Allocation Table (8.8.7.1,
         12.10.3),and the FID to MSTID Allocation Table (8.9.3, 12.12.2).
         Hence, changes made to either of these Tables can in turn affect
         the contents of the MST Configuration Table, and also affect the
         value of the digest element of the MST Configuration Identifier.

         The values of all writable objects in this table MUST be
         retained across reinitializations of the management system.

         Note that entries will exist in this table only for bridge
         components for which the corresponding instance of
         ieee8021SpanningTreeVersion (from the IEEE8021-SPANNING-TREE-MIB)
         has a value of mstp(2)."
    REFERENCE   "12.12.3.1"
    ::= { ieee8021MstpObjects 6 }

ieee8021MstpVlanEntry OBJECT-TYPE
    SYNTAX      Ieee8021MstpVlanEntry
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "In an MSTP Bridge, a MST Configuration Table entry."
    INDEX { ieee8021MstpVlanComponentId, ieee8021MstpVlanId }
    ::= { ieee8021MstpVlanTable 1 }

Ieee8021MstpVlanEntry ::= SEQUENCE {
      ieee8021MstpVlanComponentId  IEEE8021PbbComponentIdentifier,
      ieee8021MstpVlanId           IEEE8021VlanIndex,
      ieee8021MstpVlanMstId        IEEE8021MstIdentifier
}

ieee8021MstpVlanComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
```

```
    STATUS      deprecated
    DESCRIPTION
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021MstpVlanEntry 1 }

ieee8021MstpVlanId OBJECT-TYPE
    SYNTAX      IEEE8021VlanIndex
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "In an MSTP Bridge, the VID of the entry in the MST
         Configuration Table."
    ::= { ieee8021MstpVlanEntry 2 }

ieee8021MstpVlanMstId OBJECT-TYPE
    SYNTAX      IEEE8021MstIdentifier
    MAX-ACCESS  read-only
    STATUS      deprecated
    DESCRIPTION
        "In an MSTP Bridge, the MSTID value corresponding to the VID
         of the entry in the MST Configuration Table."
    ::= { ieee8021MstpVlanEntry 3 }

-- ============================================================
-- ieee8021MstpVlanV2Table
-- ============================================================

ieee8021MstpVlanV2Table OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpVlanV2Entry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the fixed-length (4096 elements), read-only,
         MST Configuration Table. Its elements are derived from other
         configuration information held by the Bridge; specifically, the
         current state of the VID to FID Allocation Table (8.8.7.1,
         12.10.3),and the FID to MSTID Allocation Table (8.9.3, 12.12.2).
         Hence, changes made to either of these Tables can in turn affect
         the contents of the MST Configuration Table, and also affect the
         value of the digest element of the MST Configuration Identifier.

         The values of all writable objects in this table MUST be
         retained across reinitializations of the management system.

         Note that entries will exist in this table only for bridge
         components for which the corresponding instance of
         ieee8021SpanningTreeVersion (from the IEEE8021-SPANNING-TREE-MIB)
         has a value of mstp(2)."
    REFERENCE   "12.12.3.1"
    ::= { ieee8021MstpObjects 10 }

ieee8021MstpVlanV2Entry OBJECT-TYPE
    SYNTAX      Ieee8021MstpVlanV2Entry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
```



```
        "In an MSTP Bridge, a MST Configuration Table entry."
    INDEX { ieee8021MstpVlanV2ComponentId, ieee8021MstpVlanV2Id }
    ::= { ieee8021MstpVlanV2Table 1 }

Ieee8021MstpVlanV2Entry ::= SEQUENCE {
      ieee8021MstpVlanV2ComponentId  IEEE8021PbbComponentIdentifier,
      ieee8021MstpVlanV2Id           IEEE8021VlanIndex,
      ieee8021MstpVlanV2MstId        Unsigned32
}

ieee8021MstpVlanV2ComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021MstpVlanV2Entry 1 }

ieee8021MstpVlanV2Id OBJECT-TYPE
    SYNTAX      IEEE8021VlanIndex
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the VID of the entry in the MST
         Configuration Table."
    ::= { ieee8021MstpVlanV2Entry 2 }

ieee8021MstpVlanV2MstId OBJECT-TYPE
    SYNTAX      Unsigned32 (0..4095)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the MSTID value corresponding to the VID
         of the entry in the MST Configuration Table.
         In an SPT Bridge, a value of 4095 is used to indicate
         SPVIDs."
    ::= { ieee8021MstpVlanV2Entry 3 }

-- ============================================================
-- MST Configuration Identifier Table
-- ============================================================

ieee8021MstpConfigIdTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpConfigIdEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table containing the MST Configuration Identifier for each
         virtual bridge.  In simple situations where there is only
         a single component, there will only be a single entry in
         this table (i.e., only a single MST Configuration Identifier).

         The values of all writable objects in this table MUST be
         retained across reinitializations of the management system.

         Note that entries will exist in this table only for bridge
```

```
          components for which the corresponding instance of
          ieee8021SpanningTreeVersion (from the IEEE8021-SPANNING-TREE-MIB)
          has a value of mstp(2)."
    REFERENCE   "12.12.3.3, 12.12.3.4"
    ::= { ieee8021MstpObjects 7 }

ieee8021MstpConfigIdEntry OBJECT-TYPE
    SYNTAX      Ieee8021MstpConfigIdEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An entry contining the MST Configuration Identifier of a bridge."
    INDEX { ieee8021MstpConfigIdComponentId }
    ::= { ieee8021MstpConfigIdTable 1 }

Ieee8021MstpConfigIdEntry ::= SEQUENCE {
    ieee8021MstpConfigIdComponentId      IEEE8021PbbComponentIdentifier,
    ieee8021MstpConfigIdFormatSelector   Integer32,
    ieee8021MstpConfigurationName        SnmpAdminString,
    ieee8021MstpRevisionLevel            Unsigned32,
    ieee8021MstpConfigurationDigest      OCTET STRING
}

ieee8021MstpConfigIdComponentId OBJECT-TYPE
    SYNTAX      IEEE8021PbbComponentIdentifier
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The component identifier is used to distinguish between the
        multiple virtual bridge instances within a PBB.  In simple
        situations where there is only a single component the default
        value is 1."
    ::= { ieee8021MstpConfigIdEntry 1 }

ieee8021MstpConfigIdFormatSelector OBJECT-TYPE
    SYNTAX      Integer32 (0..0)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Configuration Identifier Format Selector
         in use by the Bridge, in the MST Configuration Identifier. This
         has a value of 0 to indicate the format specified in IEEE Std 802.1Q."
    REFERENCE   "13.8:1"
    ::= { ieee8021MstpConfigIdEntry 2 }

ieee8021MstpConfigurationName OBJECT-TYPE
    SYNTAX      SnmpAdminString (SIZE(32))
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Configuration Name in the MST
         Configuration Identifier."
    REFERENCE   "13.8:2"
    ::= { ieee8021MstpConfigIdEntry 3 }

ieee8021MstpRevisionLevel OBJECT-TYPE
    SYNTAX      Unsigned32 (0..65535)
    MAX-ACCESS  read-write
    STATUS      current
```



```
    DESCRIPTION
        "In an MSTP Bridge, the Revision Level in the MST
         Configuration Identifier."
    REFERENCE   "13.8:3"
    ::= { ieee8021MstpConfigIdEntry 4 }

ieee8021MstpConfigurationDigest OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(16))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the Configuration Digest in the MST
         Configuration Identifier."
    REFERENCE   "13.8:4"
    ::= { ieee8021MstpConfigIdEntry 5 }


-- ============================================================
-- Ieee8021MstpCistPortExtensionTable:
-- ============================================================

ieee8021MstpCistPortExtensionTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpCistPortExtensionEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
           "The CIST Port Extensions Table. Each row in the Table represents
information
         regarding a specific Port within the Bridge's Bridge Protocol
         Entity, for the CIST."
    REFERENCE   "12.8.2"
    ::= { ieee8021MstpObjects 8 }

ieee8021MstpCistPortExtensionEntry OBJECT-TYPE
    SYNTAX      Ieee8021MstpCistPortExtensionEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of additional objects containing information
         maintained by every port about the CIST
         state for that port."
   AUGMENTS { ieee8021MstpCistPortEntry}
    ::= { ieee8021MstpCistPortExtensionTable 1 }

Ieee8021MstpCistPortExtensionEntry ::=
    SEQUENCE {
        ieee8021MstpCistPortAutoEdgePort
            TruthValue,
        ieee8021MstpCistPortAutoIsolatePort
            TruthValue
    }

ieee8021MstpCistPortAutoEdgePort OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The administrative value of the Auto Edge Port parameter.
         A value of true(1) indicates if the bridge detection state
```

```
          machine (BDM, 13.31) is to detect other bridges
          attached to the LAN, and set
          ieee8021SpanningTreeRstpPortOperEdgePort automatically.
          The default value is true(1)

         This is optional and provided only by implementations
         that support the automatic identification of edge ports.

          The value of this object MUST be retained across
          reinitializations of the management system."
    REFERENCE   "12.8.2.1.3 )"
    ::= { ieee8021MstpCistPortExtensionEntry 1 }

ieee8021MstpCistPortAutoIsolatePort OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The operational value of the Isolate Port parameter.

        A value of true(1) indicates a Designated Port will
        transition to discarding if both
        ieee8021SpanningTreeRstpPortAdminEdgePort and
        ieee8021SpanningTreeRstpPortAutoEdgePort are FALSE and
        the other bridge presumed to be attached to the same
        point-to-point LAN does not transmit periodic BPDUs.

        This is optional and provided only by implementations
        that support the automatic identification of fragile
         bridges."
    REFERENCE   "12.8.2.1.3"
    ::= { ieee8021MstpCistPortExtensionEntry 2 }


-- ================================================================
-- Conformance Information
-- ================================================================

ieee8021MstpGroups
    OBJECT IDENTIFIER ::= { ieee8021MstpConformance 1 }
ieee8021MstpCompliances
    OBJECT IDENTIFIER ::= { ieee8021MstpConformance 2 }

-- ================================================================
-- Units of conformance
-- ================================================================

ieee8021MstpCistGroup OBJECT-GROUP
    OBJECTS {
        ieee8021MstpCistBridgeIdentifier,
        ieee8021MstpCistTopologyChange,
        ieee8021MstpCistRegionalRootIdentifier,
        ieee8021MstpCistPathCost,
        ieee8021MstpCistMaxHops
    }
    STATUS      current
    DESCRIPTION
        "Objects for the CIST group"
    ::= { ieee8021MstpGroups 1 }
```

```
ieee8021MstpGroup OBJECT-GROUP
    OBJECTS {
        ieee8021MstpBridgeId,
        ieee8021MstpTimeSinceTopologyChange,
        ieee8021MstpTopologyChanges,
        ieee8021MstpTopologyChange,
        ieee8021MstpDesignatedRoot,
        ieee8021MstpRootPathCost,
        ieee8021MstpRootPort,
        ieee8021MstpBridgePriority,
        ieee8021MstpVids0,
        ieee8021MstpVids1,
        ieee8021MstpVids2,
        ieee8021MstpVids3,
        ieee8021MstpRowStatus
    }
    STATUS      current
    DESCRIPTION
        "Objects for the MST group"
    ::= { ieee8021MstpGroups 2 }

ieee8021MstpCistPortGroup OBJECT-GROUP
    OBJECTS {
        ieee8021MstpCistPortUptime,
        ieee8021MstpCistPortAdminPathCost,
        ieee8021MstpCistPortDesignatedRoot,
        ieee8021MstpCistPortTopologyChangeAck,
        ieee8021MstpCistPortHelloTime,
        ieee8021MstpCistPortAdminEdgePort,
        ieee8021MstpCistPortOperEdgePort,
        ieee8021MstpCistPortMacEnabled,
        ieee8021MstpCistPortMacOperational,
        ieee8021MstpCistPortRestrictedRole,
        ieee8021MstpCistPortRestrictedTcn,
        ieee8021MstpCistPortRole,
        ieee8021MstpCistPortDisputed,
        ieee8021MstpCistPortCistRegionalRootId,
        ieee8021MstpCistPortCistPathCost,
        ieee8021MstpCistPortProtocolMigration,
        ieee8021MstpCistPortEnableBPDURx,
        ieee8021MstpCistPortEnableBPDUTx,
        ieee8021MstpCistPortPseudoRootId,
        ieee8021MstpCistPortIsL2Gp
    }
    STATUS      current
    DESCRIPTION
        "Objects for the CIST Port group"
    ::= { ieee8021MstpGroups 3 }

ieee8021MstpPortGroup OBJECT-GROUP
    OBJECTS {
        ieee8021MstpPortUptime,
        ieee8021MstpPortState,
        ieee8021MstpPortPriority,
        ieee8021MstpPortPathCost,
        ieee8021MstpPortDesignatedRoot,
        ieee8021MstpPortDesignatedCost,
        ieee8021MstpPortDesignatedBridge,
```

```
        ieee8021MstpPortDesignatedPort,
        ieee8021MstpPortRole,
        ieee8021MstpPortDisputed
    }
    STATUS      current
    DESCRIPTION
        "Objects for the MST Port group"
    ::= { ieee8021MstpGroups 4 }

ieee8021MstpFidToMstiGroup OBJECT-GROUP
    OBJECTS {
        ieee8021MstpFidToMstiMstId
    }
    STATUS      deprecated
    DESCRIPTION
        "Objects for the MST FID to MSTID Allocation Table group"
    ::= { ieee8021MstpGroups 5 }

ieee8021MstpVlanGroup OBJECT-GROUP
    OBJECTS {
        ieee8021MstpVlanMstId
    }
    STATUS      deprecated
    DESCRIPTION
        "Objects for the MST Configuration Table group"
    ::= { ieee8021MstpGroups 6 }


ieee8021MstpConfigIdGroup OBJECT-GROUP
    OBJECTS {
        ieee8021MstpConfigIdFormatSelector,
        ieee8021MstpConfigurationName,
        ieee8021MstpRevisionLevel,
        ieee8021MstpConfigurationDigest
    }
    STATUS      current
    DESCRIPTION
        "Objects for the MST Configuration Identifier group"
    ::= { ieee8021MstpGroups 7 }


ieee8021MstpCistPortExtensionGroup OBJECT-GROUP
    OBJECTS {
        ieee8021MstpCistPortAutoEdgePort,
        ieee8021MstpCistPortAutoIsolatePort
    }
    STATUS      current
    DESCRIPTION
        "Objects for the CIST Port Extension group
         for fragile bridges"
    ::= { ieee8021MstpGroups 8 }

ieee8021MstpFidToMstiV2Group OBJECT-GROUP
    OBJECTS {
        ieee8021MstpFidToMstiV2MstId
    }
    STATUS      current
    DESCRIPTION
        "Objects for the MST FID to MSTID Allocation Table group
```



```
        for SPB"
    ::= { ieee8021MstpGroups 9 }

ieee8021MstpVlanV2Group OBJECT-GROUP
    OBJECTS {
        ieee8021MstpVlanV2MstId
    }
    STATUS      current
    DESCRIPTION
        "Objects for the MST Configuration Table group for SPB"
    ::= { ieee8021MstpGroups 10 }

-- ============================================================
-- Compliance statements
-- ============================================================

ieee8021MstpCompliance MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION
        "The compliance statement for devices supporting Multiple
        Spanning Tree as defined in 13 of IEEE Std 802.1Q."

    MODULE
        MANDATORY-GROUPS {
            ieee8021MstpCistGroup,
            ieee8021MstpGroup,
            ieee8021MstpCistPortGroup,
            ieee8021MstpPortGroup,
            ieee8021MstpFidToMstiGroup,
            ieee8021MstpVlanGroup,
            ieee8021MstpConfigIdGroup
        }

    GROUP ieee8021MstpCistPortExtensionGroup
    DESCRIPTION
        "Implementation of this group is optional."

    ::= { ieee8021MstpCompliances 1 }

END
```

26. Principles of Provider Backbone Bridged Network operation

Replace Figure 26-2 as shown:

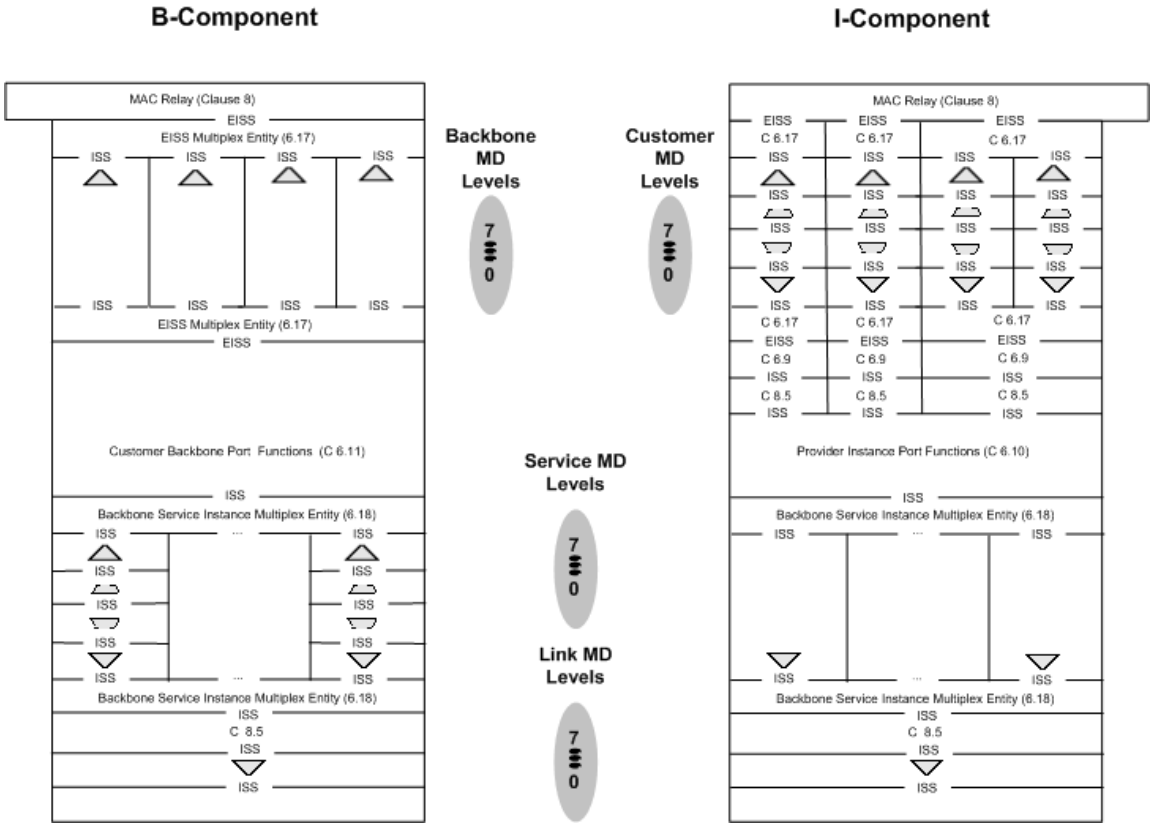

Figure 26-2—CFM shim model

Annex A

(normative)

PICS proforma—Bridge implementations[2]

A.31 Stream Reservation Protocol

Change item SRP-19 in A.31 as shown:

SRP-19	Does the implementation support the automatic modifications to Stream reservations as described in ~~35.2.5~~35.2.6?	M	~~35.2.5~~35.2.6	Yes [ ]	No [ ]

[2]*Copyright release for PICS proformas:* Users of this standard may freely reproduce the PICS proforma in this annex so that it can be used for its intended purpose and may further publish the completed PICS.

Annex B

(normative)

PICS proforma—End station implementations[3]

B.10 SRP (Stream Reservation Protocol)

Change the item names of SPR-19 and SPR-21 in B.10 as shown:

~~SPR~~SRP-19	Does the device set SRclassPriority to the value declared by the neighboring device?	M	35.2.2.9.3	Yes [ ]	
~~SPR~~SRP-21	Does the device set SRclassVID to the value declared by the neighboring device?	M	35.2.2.9.4	Yes [ ]	

[3]*Copyright release for PICS proformas:* Users of this standard may freely reproduce the PICS proforma in this annex so that it can be used for its intended purpose and may further publish the completed PICS.

Annex C

(normative)

DMN (Designated MSRP Node) Implementations

C.3 Designated MSRP Nodes on IEEE 802.11 media

Replace Figure C-11, Figure C-12, and Figure C-13, as shown:

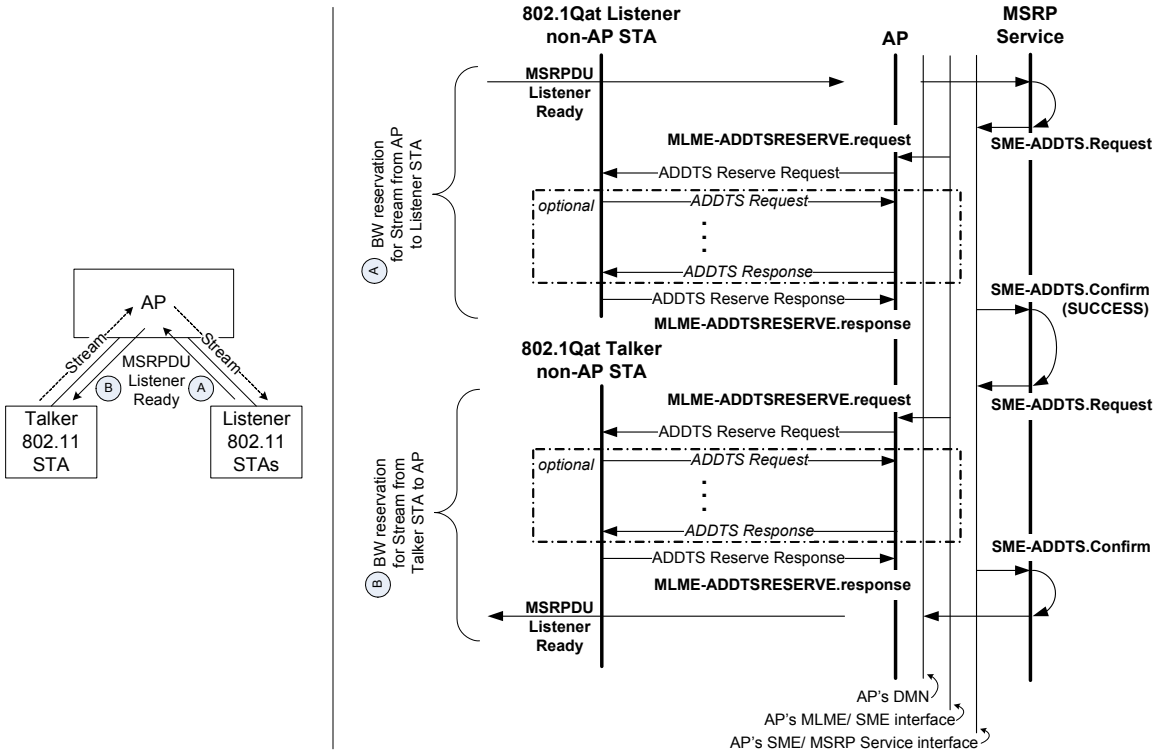

Figure C-11—MSRP/802.11 Talker STA to Listener STA Reservation Flows

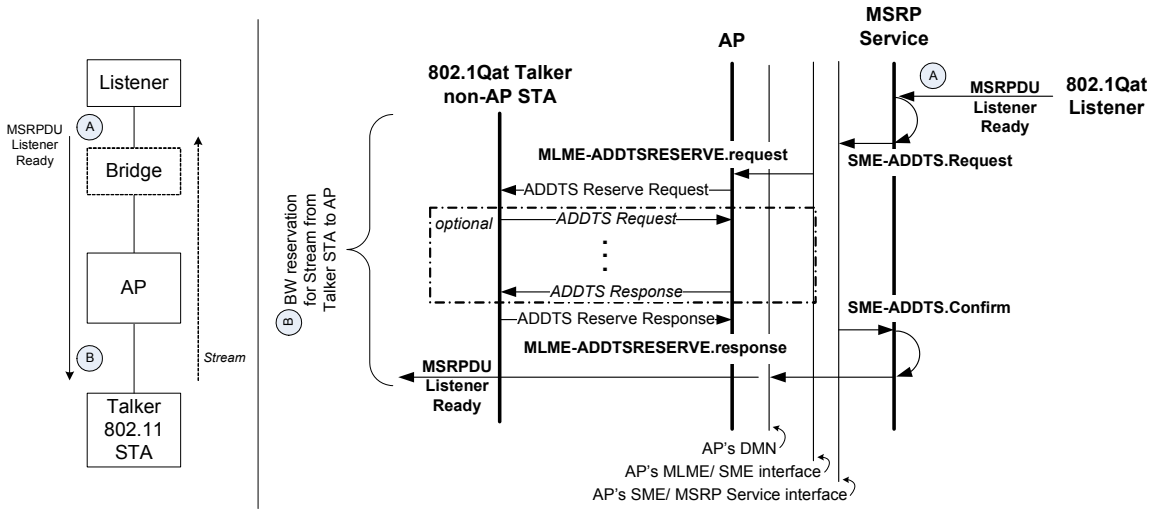

Figure C-12—MSRP/802.11 "Bridged" Listener to Talker STA Reservation Flows

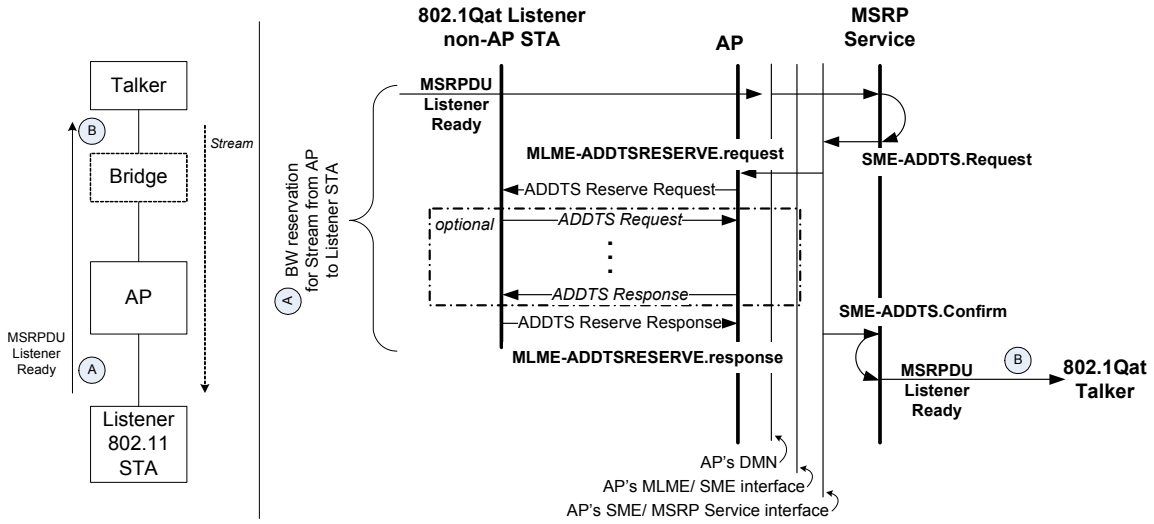

Figure C-13—MSRP/802.11 Listener STA to "Bridged" Talker Reservation Flows

C.3.1 MSRP Handling

Change list items c) 1) and c) 2) as shown:

c) The DMN translates the MSRP TSpec parameters into an equivalent IEEE 802.11 TSPEC and invokes DMN-SME interface primitives with the AP as follows:

1) When the DMN receives a Talker Advertise message that originated from an upstream BSS node, the DMN invokes QoS Query transactions (SME-QUERY.Request) with the BSS QoS AP (i.e. HC where ~~dot11RobustAvStreaming~~dot11RobustAVStreamingImplemented is ~~set to~~ true) to check whether or not the bandwidth advertised in the message's TSpec is available on

each upstream to downstream node link of the BSS. In addition the DMN maps the MSRPDU's TSpec with the message's StreamID.

2) When the DMN receives a Listener Ready message originated from a downstream BSS node, the DMN invokes a QoS Reservation transaction (SME-ADDTS.Request) with the BSS QoS manager to reserve the bandwidth associated with the message's StreamID on the downstream to upstream BSS node link.

The IEEE 802.11 BSS QoS AP on receipt of a SME-ADDTS.Request from the DMN shall make a determination about whether to accept the request or deny the request. The algorithm to be used by the BSS QoS AP to make this determination is an implementation detail.

If the BSS QoS AP decides to accept the request, the AP shall derive a medium time value from the parameters specified in the SME-ADDTS.Request. The BSS QoS AP shall then generate an ~~autonomous~~ ADDTS Reserve Request frame in which the medium time value is included and transmit it to the appropriate SRP Talker (BSS upstream) and Listener (BSS downstream) nodes. The appropriate SRP Talker or Listener node replies to this ADDTS Reserve Request frame with an ADDTS Reserve Response frame indicating if the node accepts the reservation request. One or more ADDTS Request and ADDTS Response frames might be exchanged prior to the ADDTS Reserve Response frame.

If the BSS QoS AP or Listener/Talker node decides to reject the request, it shall respond to the DMN with SME-ADDTS.confirm with a ResultCode of Rejected. The confirm primitive may also include a TSPEC which the BSS QoS AP can accept, if specified in a subsequent SME-ADDTS.request.

Annex D

(normative)

Organizationally Specific TLVs

D.2 Organizationally Specific TLV definitions

D.2.9 ETS Configuration TLV

D.2.9.7 TC Bandwidth Table

Insert the following text at the end of D.2.9.7:

NOTE--While it is intended that only TCs configured for ETS will have a bandwidth value associated with them, it is possible, during configuration changes, to have situations where a TC is not configured for ETS but has a non-zero TCBandwidth percentage. In this case, the sum of all the TCBandwidth percentages is still equal to 100, but the TC bandwidth percentages of the non-ETS TCs would be unused bandwidth and reallocated to the ETS TCs.

Annex I

(informative)

Priority and drop precedence

I.3 Traffic type to traffic class mapping

Change the first sentence as shown:

Table I-1 ~~groups the traffic types introduced~~ is an example of how traffic types can be grouped to match the number of traffic class queues supported by a Bridge Port.

I.5 Supporting the credit-based shaper algorithm

Change the text and tables as shown:

~~Table 8-4 defines~~ Tables 34-1 and 34-2 define a set of recommended priority to traffic class mappings where the credit-based shaper algorithm (8.6.8.1) is supported by one or two of the available traffic classes; the recommended mappings shown are intended for use where priority ~~5~~3 is used to support SR class A and priority ~~4~~2 is used to support SR class B.

In order for the credit-based shaper algorithm to operate in the way it is intended, it is necessary to ensure that the shaper algorithm is supported on the numerically highest traffic class(es). Hence, if two traffic classes are used to support the shaper algorithm, it follows that the minimum useful number of traffic classes that a Port could support is three.

Table I-4 redraws Table I-3 for the case where only SR class ~~A~~ B (SR-B) is supported. The defining traffic type for the numerically highest traffic class is ~~VO~~SR-B in all cases. VI does not appear in this table since SR-B is used for the video traffic.

Table I-4—Defining traffic types — Credit-based shaper support of ~~one~~ SR class B only

Number of queues	Defining traffic type							
2	~~VO~~SR-B	BE						
3	~~VO~~SR-B	NC		BE				
4	~~VO~~SR-B	NC		CA		BE		
5	~~VO~~SR-B	NC	IC		CA		BE	
6	~~VO~~SR-B	NC	IC		CA		BE	BK
7	~~VO~~SR-B	NC	IC		CA	EE	BE	BK
8	~~VO~~SR-B	NC	IC	~~VI~~VO	CA	EE	BE	BK

NOTE—When one or more SR classes are supported, the primary distinction being made is between traffic that requires bandwidth reservation and latency guarantees on the one hand, and different types of "best effort" traffic on the other. The audio and video traffic types identified in Table I-1 are therefore not applicable.

Table I-5 redraws Table I-3 for the case where SR classes A (SR-A) and B (SR-B) are supported in place of VO and VI. The defining traffic types for the two numerically highest traffic classes are ~~VO~~SR-A and ~~VI~~SR-B in all cases; for 4 through 8 traffic classes, the remaining traffic types are broken out in the same order as in Table I-3.

Table I-5—Defining traffic types — Credit-based shaper support of ~~two~~ SR classes A and B

Number of queues	Defining traffic type							
3	~~VO~~SR-A	~~VI~~SR-B	BE					
4	~~VO~~SR-A	~~VI~~SR-B	NC		BE			
5	~~VO~~SR-A	~~VI~~SR-B	NC		CA		BE	
6	~~VO~~SR-A	~~VI~~SR-B	NC	IC	CA		BE	
7	~~VO~~SR-A	~~VI~~SR-B	NC	IC	CA		BE	BK
8	~~VO~~SR-A	~~VI~~SR-B	NC	IC	CA	EE	BE	BK