IEEE 802.1 Maintenance Request
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| IEEE 802.1 REVISION REQUEST 0022 |
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DATE: 11 January, 2012
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REQUESTED REVISION:
     STANDARD: 802.1Q-2011
     CLAUSE NUMBER: 17.7.6 (and attached MIB file)
     CLAUSE TITLE: Definitions for the IEEE8021-MSTP MIB module

RATIONALE FOR REVISION:

There are a few issues with the MSTP MIB in 802.1Q-2011:

1) A number of clause references in the MSTP MIB were not updated to reflect the revision of clause 13 in 802.1Q-2011.

2) Clause 23.5.10 says enableBPDUrx is set by default; however, in the MIB the DEFVAL for ieee8021MstpCistPortEnableBPDURx is false.

3) Clause 23.5.11 says enableBPDUtx is set by default; however, in the MIB the DEFVAL for ieee8021MstpCistPortEnableBPDUTx is false.

PROPOSED REVISION TEXT:

1) Update the clause references as indicated in IEEE8021-MSTP-MIB-corrected.mib (provided separately).
2) Reconcile these, presumably by changing the DEFVAL to true.
3) Reconcile these, presumably by changing the DEFVAL to true.

IMPACT ON EXISTING NETWORKS:

Correcting the clause references will have no impact. Changing the DEFVAL values to be consistent with the clause 25 text should not necessarily require changes to implementations (though I am not a MIB expert).

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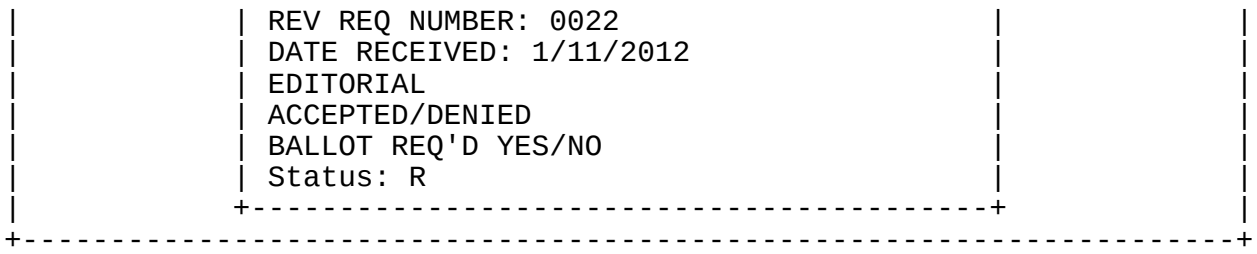
| Please attach supporting material, if any |
| Submit to:- Tony Jeffree, Chair IEEE 802.1 |
| and copy:- Paul Congdon, Vice-Chair IEEE 802.1 |
| E-Mail: stds-802-1-maint-req@ieee.org |
| |
| +------- For official 802.1 use -----------+ |



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```
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 "201103230000Z" -- March 23, 2011
    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     "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   "13.15.4"
    ::= { 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   "13.24.3"
    ::= { 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
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```
    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   "13.24.1"
    ::= { 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 (13.23.9) was last non-zero for any Port for the MSTI."
    REFERENCE   "13.23.9"
    ::= { 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 (13.23.9) has been
         non-zero for any Port for the MSTI since the Bridge was powered
         on or initialized."
    REFERENCE   "13.23.9"
    ::= { 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   "13.23.9"
    ::= { 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   "13.25.7"
    ::= { 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   "13.25.7"
    ::= { 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   "13.24.7"
    ::= { 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   "13.24.1"
    ::= { 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.
```

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        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, 13.24)."
    ::= { 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   "13.25:y, 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 13.9, for the CIST."
    REFERENCE   "13.25.33"
    ::= { 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   "13.25,34, 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 m)"
```

```
    ::= { 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 n)"
    ::= { 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   "13.25.49"
    ::= { 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   "13.25.50"
    ::= { 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   "12.2.8.1.3 s)"
    ::= { 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   "13.25:ai, 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   "13.8:c, 13.9, 13.25.33"
    ::= { 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   "13.8:d, 13.9, 13.25.33"
    ::= { 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 of IEEE Std 802.1D."
    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   "13.25.10"
    DEFVAL { false }
    ::= { 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   "13.25.11"
    DEFVAL { false }
    ::= { ieee8021MstpCistPortEntry 20 }

ieee8021MstpCistPortPseudoRootId OBJECT-TYPE
    SYNTAX      BridgeId
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "In an MSTP Bridge, the pseudoRootId parameter value."
    REFERENCE   "13.25.37"
    ::= { 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   "13.25.19"
    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, 13.24)."
    ::= { 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   "13.36, 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   "13.25.33"
    ::= { 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   "13.25.18, 13.16"
    ::= { 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 13.10, for the
MSTI."
    REFERENCE   "13.25.33"
    ::= { 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 13.10, for the
MSTI."
    REFERENCE   "13.25.33"
    ::= { 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 13.10, for
         the MSTI."
    REFERENCE   "13.25.33"
    ::= { 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 13.10, for the
MSTI."
    REFERENCE   "13.25.33"
    ::= { 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   "13.25:ai, and 17.19.6 of IEEE Std 802.1D"
    ::= { ieee8021MstpPortEntry 13 }

-- ============================================================
-- ieee8021MstpFidToMstiTable
-- ============================================================

ieee8021MstpFidToMstiTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpFidToMstiEntry
    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 5 }

ieee8021MstpFidToMstiEntry OBJECT-TYPE
    SYNTAX      Ieee8021MstpFidToMstiEntry
    MAX-ACCESS  not-accessible
```

```
    STATUS      current
    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      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."
    ::= { ieee8021MstpFidToMstiEntry 1 }

ieee8021MstpFidToMstiFid OBJECT-TYPE
    SYNTAX      Unsigned32 (1..4094)
    MAX-ACCESS  not-accessible
    STATUS      current
    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      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."
    ::= { ieee8021MstpFidToMstiEntry 3 }

-- ============================================================
-- ieee8021MstpVlanTable
-- ============================================================

ieee8021MstpVlanTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Ieee8021MstpVlanEntry
    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 6 }

ieee8021MstpVlanEntry OBJECT-TYPE
    SYNTAX      Ieee8021MstpVlanEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    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      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."
    ::= { ieee8021MstpVlanEntry 1 }

ieee8021MstpVlanId 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."
    ::= { ieee8021MstpVlanEntry 2 }
```

```
ieee8021MstpVlanMstId OBJECT-TYPE
    SYNTAX      IEEE8021MstIdentifier
    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."
    ::= { ieee8021MstpVlanEntry 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   "13.7:1"
    ::= { 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   "13.7:2"
    ::= { 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   "13.7:3"
    ::= { 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   "13.7:4"
    ::= { 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      current
    DESCRIPTION
        "Objects for the MST FID to MSTID Allocation Table group"
    ::= { ieee8021MstpGroups 5 }

ieee8021MstpVlanGroup OBJECT-GROUP
    OBJECTS {
        ieee8021MstpVlanMstId
    }
    STATUS      current
    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 }


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