

BRIDGE-MIB DEFINITIONS ::= BEGIN

IMPORTS

```
Counter,
TimeTicks
    FROM RFC1155-SMI
mib-2
    FROM RFC1213-MIB
OBJECT-TYPE
    FROM RFC-1212
TRAP-TYPE
    FROM RFC-1215;
```

-- All representations of MAC addresses in this MIB Module
-- use, as a textual convention (i.e. this convention does
-- not affect their encoding), the data type:

MacAddress ::= OCTET STRING (SIZE (6))

-- a 6 octet address
-- in the
-- "canonical"
-- order
-- defined by IEEE 802.1a, i.e., as if it were transmitted
-- least significant bit first, even though 802.5 (in
-- contrast to other n802.x protocols) requires MAC
-- addresses to be transmitted most significant bit first.
--
-- 16-bit addresses, if needed, are represented by setting
-- their upper 4 octets to all 0's, i.e., AAFF would be
-- represented as 00000000AAFF.
-- Similarly, all representations of Bridge-Id in this MIB
-- Module use, as a textual convention (i.e. this
-- convention does not affect their encoding), the data
-- type:

BridgeId ::= OCTET STRING (SIZE (8))

-- the
-- Bridge-Identifier
-- as used in the
-- Spanning Tree
-- Protocol to uniquely identify a bridge. Its first two
-- octets (in network byte order) contain a priority
-- value and its last 6 octets contain the MAC address
-- used to refer to a bridge in a unique fashion
-- (typically, the numerically smallest MAC address
-- of all ports on the bridge).
-- Several objects in this MIB module represent values of
-- timers used by the Spanning Tree Protocol. In this
-- MIB, these timers have values in units of hundredths of
-- a second (i.e. 1/100 secs).
-- These timers, when stored in a Spanning Tree Protocol's
-- BPDU, are in units of 1/256 seconds. Note, however,
-- that 802.1D-1990 specifies a settable granularity of
-- no more than 1 second for these timers. To avoid
-- ambiguity, a data type is defined here as a textual
-- convention and all representation of these timers
-- in this MIB module are defined using this data type. An
-- algorithm is also defined for converting between the
-- different units, to ensure a timer's value is not
-- distorted by multiple conversions.
-- The data type is:

Timeout ::= INTEGER

-- a STP timer in units of 1/100 seconds
-- To convert a Timeout value into a value in units of
-- 1/256 seconds, the following algorithm should be used:

--
-- b = floor((n * 256) / 100)

-- where:

```

--      floor    = quotient [ignore remainder]
--      n is the value in 1/100 second units
--      b is the value in 1/256 second units
--
-- To convert the value from 1/256 second units back to
-- 1/100 seconds, the following algorithm should be used:
--
--      n = ceiling( ( b * 100 ) / 256 )
--
-- where:
--      ceiling = quotient [if remainder is 0], or
--                quotient + 1 [if remainder is non-zero]
--      n is the value in 1/100 second units
--      b is the value in 1/256 second units
--
-- Note: it is important that the arithmetic operations are
-- done in the order specified (i.e., multiply first, divide
-- second).

```

```

dotldBridge OBJECT IDENTIFIER
-- 1.3.6.1.2.1.17 -- ::= { mib-2 17 }
-- groups in the Bridge MIB

```

```

dotldBase OBJECT IDENTIFIER
-- 1.3.6.1.2.1.17.1 -- ::= { dotldBridge 1 }

```

```

dotldStp OBJECT IDENTIFIER
-- 1.3.6.1.2.1.17.2 -- ::= { dotldBridge 2 }

```

```

dotldSr OBJECT IDENTIFIER
-- 1.3.6.1.2.1.17.3 -- ::= { dotldBridge 3 }
-- separately documented

```

```

dotldTp OBJECT IDENTIFIER
-- 1.3.6.1.2.1.17.4 -- ::= { dotldBridge 4 }

```

```

dotldStatic OBJECT IDENTIFIER
-- 1.3.6.1.2.1.17.5 -- ::= { dotldBridge 5 }
-- the dotldBase group
-- Implementation of the dotldBase group is mandatory for all
-- bridges.

```

```

dotldBaseBridgeAddress OBJECT-TYPE

```

```

    SYNTAX      MacAddress
    ACCESS      read-only
    STATUS      mandatory

```

```

    DESCRIPTION

```

```

        "The MAC address used by this bridge when it must
        be 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 dotldStpPriority a unique
        BridgeIdentifier is formed which is used in the
        Spanning Tree Protocol."

```

```

    REFERENCE      "IEEE 802.1D-1990: Sections 6.4.1.1.3 and 3.12.5"

```

```

-- 1.3.6.1.2.1.17.1.1 -- ::= { dotldBase 1 }

```

```

dotldBaseNumPorts OBJECT-TYPE

```

```

    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory

```

```

    DESCRIPTION

```

```

        "The number of ports controlled by this bridging
        entity."

```

```

    REFERENCE      "IEEE 802.1D-1990: Section 6.4.1.1.3"

```

```

-- 1.3.6.1.2.1.17.1.2 -- ::= { dotldBase 2 }

```

```

dotldBaseType OBJECT-TYPE

```

```

SYNTAX      INTEGER {
                unknown(1),
                transparent-only(2),
                sourceroute-only(3),
                srt(4) }
ACCESS      read-only
STATUS      mandatory
DESCRIPTION
    "Indicates what type of bridging this bridge can
    perform. If a bridge is actually performing a
    certain type of bridging this will be indicated by
    entries in the port table for the given type."
-- 1.3.6.1.2.1.17.1.3 -- ::= { dotldBase 3 }
-- The Generic Bridge Port Table

dotldBasePortTable OBJECT-TYPE
SYNTAX      SEQUENCE OF DotldBasePortEntry
ACCESS      not-accessible
STATUS      mandatory
DESCRIPTION
    "A table that contains generic information about
    every port that is associated with this bridge.
    Transparent, source-route, and srt ports are
    included."
-- 1.3.6.1.2.1.17.1.4 -- ::= { dotldBase 4 }

dotldBasePortEntry OBJECT-TYPE
SYNTAX      DotldBasePortEntry
ACCESS      not-accessible
STATUS      mandatory
DESCRIPTION
    "A list of information for each port of the
    bridge."
REFERENCE   "IEEE 802.1D-1990: Section 6.4.2, 6.6.1"
INDEX {
    dotldBasePort
}
-- 1.3.6.1.2.1.17.1.4.1 -- ::= { dotldBasePortTable 1 }

DotldBasePortEntry ::= SEQUENCE {
    dotldBasePort          INTEGER,
    dotldBasePortIfIndex  INTEGER,
    dotldBasePortCircuit  OBJECT IDENTIFIER,
    dotldBasePortDelayExceededDiscards Counter,
    dotldBasePortMtuExceededDiscards Counter
}

dotldBasePort OBJECT-TYPE
SYNTAX      INTEGER (1..65535)
ACCESS      read-only
STATUS      mandatory
DESCRIPTION
    "The port number of the port for which this entry
    contains bridge management information."
-- 1.3.6.1.2.1.17.1.4.1.1 -- ::= { dotldBasePortEntry 1 }

dotldBasePortIfIndex OBJECT-TYPE
SYNTAX      INTEGER
ACCESS      read-only
STATUS      mandatory
DESCRIPTION
    "The value of the instance of the ifIndex object,
    defined in MIB-II, for the interface corresponding
    to this port."
-- 1.3.6.1.2.1.17.1.4.1.2 -- ::= { dotldBasePortEntry 2 }

dotldBasePortCircuit OBJECT-TYPE
SYNTAX      OBJECT IDENTIFIER

```

ACCESS read-only
STATUS mandatory
DESCRIPTION

"For a port which (potentially) has the same value of dot1dBasePortIfIndex as another port on the same bridge, this object contains the name of an object instance unique to this port. For example, in the case where multiple ports correspond one-to-one with multiple X.25 virtual circuits, this value might identify an (e.g., the first) object instance associated with the X.25 virtual circuit corresponding to this port.

For a port which has a unique value of dot1dBasePortIfIndex, this object can have the value { 0 0 }."

-- 1.3.6.1.2.1.17.1.4.1.3 -- ::= { dot1dBasePortEntry 3 }

dot1dBasePortDelayExceededDiscards OBJECT-TYPE

SYNTAX Counter
ACCESS read-only
STATUS mandatory
DESCRIPTION

"The number of frames discarded by this port due to excessive transit delay through the bridge. It is incremented by both transparent and source route bridges."

REFERENCE "IEEE 802.1D-1990: Section 6.6.1.1.3"

-- 1.3.6.1.2.1.17.1.4.1.4 -- ::= { dot1dBasePortEntry 4 }

dot1dBasePortMtuExceededDiscards OBJECT-TYPE

SYNTAX Counter
ACCESS read-only
STATUS mandatory
DESCRIPTION

"The number of frames discarded by this port due to an excessive size. It is incremented by both transparent and source route bridges."

REFERENCE "IEEE 802.1D-1990: Section 6.6.1.1.3"

-- 1.3.6.1.2.1.17.1.4.1.5 -- ::= { dot1dBasePortEntry 5 }

-- the dot1dStp group

-- Implementation of the dot1dStp group is optional. It is
-- implemented by those bridges that support the Spanning Tree
-- Protocol.

dot1dStpProtocolSpecification OBJECT-TYPE

SYNTAX INTEGER {
 unknown(1),
 decLb100(2),
 ieee8021d(3) }
ACCESS read-only
STATUS mandatory
DESCRIPTION

"An indication of what version of the Spanning Tree Protocol is being run. The value 'decLb100(2)' indicates the DEC LANbridge 100 Spanning Tree protocol. IEEE 802.1d implementations will return 'ieee8021d(3)'. If future versions of the IEEE Spanning Tree Protocol are released that are incompatible with the current version a new value will be defined."

-- 1.3.6.1.2.1.17.2.1 -- ::= { dot1dStp 1 }

dot1dStpPriority OBJECT-TYPE

SYNTAX INTEGER (0..65535)
ACCESS read-write
STATUS mandatory
DESCRIPTION

"The value of the write-able portion of the Bridge

ID, i.e., the first two octets of the (8 octet long) Bridge ID. The other (last) 6 octets of the Bridge ID are given by the value of dot1dBaseBridgeAddress."

REFERENCE "IEEE 802.1D-1990: Section 4.5.3.7"

-- 1.3.6.1.2.1.17.2.2 -- ::= { dot1dStp 2 }

dot1dStpTimeSinceTopologyChange OBJECT-TYPE

SYNTAX TimeTicks

ACCESS read-only

STATUS mandatory

DESCRIPTION

"The time (in hundredths of a second) since the last time a topology change was detected by the bridge entity."

REFERENCE "IEEE 802.1D-1990: Section 6.8.1.1.3"

-- 1.3.6.1.2.1.17.2.3 -- ::= { dot1dStp 3 }

dot1dStpTopChanges OBJECT-TYPE

SYNTAX Counter

ACCESS read-only

STATUS mandatory

DESCRIPTION

"The total number of topology changes detected by this bridge since the management entity was last reset or initialized."

REFERENCE "IEEE 802.1D-1990: Section 6.8.1.1.3"

-- 1.3.6.1.2.1.17.2.4 -- ::= { dot1dStp 4 }

dot1dStpDesignatedRoot OBJECT-TYPE

SYNTAX BridgeId

ACCESS read-only

STATUS mandatory

DESCRIPTION

"The bridge identifier of the root of the spanning tree as determined by the Spanning Tree Protocol as executed by this node. This value is used as the Root Identifier parameter in all Configuration Bridge PDUs originated by this node."

REFERENCE "IEEE 802.1D-1990: Section 4.5.3.1"

-- 1.3.6.1.2.1.17.2.5 -- ::= { dot1dStp 5 }

dot1dStpRootCost OBJECT-TYPE

SYNTAX INTEGER

ACCESS read-only

STATUS mandatory

DESCRIPTION

"The cost of the path to the root as seen from this bridge."

REFERENCE "IEEE 802.1D-1990: Section 4.5.3.2"

-- 1.3.6.1.2.1.17.2.6 -- ::= { dot1dStp 6 }

dot1dStpRootPort OBJECT-TYPE

SYNTAX INTEGER

ACCESS read-only

STATUS mandatory

DESCRIPTION

"The port number of the port which offers the lowest cost path from this bridge to the root bridge."

REFERENCE "IEEE 802.1D-1990: Section 4.5.3.3"

-- 1.3.6.1.2.1.17.2.7 -- ::= { dot1dStp 7 }

dot1dStpMaxAge OBJECT-TYPE

SYNTAX Timeout

ACCESS read-only

STATUS mandatory

DESCRIPTION

"The maximum age of Spanning Tree Protocol

information learned from the network on any port before it is discarded, in units of hundredths of a second. This is the actual value that this bridge is currently using."

REFERENCE "IEEE 802.1D-1990: Section 4.5.3.4"

-- 1.3.6.1.2.1.17.2.8 -- ::= { dot1dStp 8 }

dot1dStpHelloTime OBJECT-TYPE

SYNTAX Timeout
ACCESS read-only
STATUS mandatory

DESCRIPTION

"The amount of time between the transmission of Configuration bridge PDUs by this node on any port when it is the root of the spanning tree or trying to become so, in units of hundredths of a second. This is the actual value that this bridge is currently using."

REFERENCE "IEEE 802.1D-1990: Section 4.5.3.5"

-- 1.3.6.1.2.1.17.2.9 -- ::= { dot1dStp 9 }

dot1dStpHoldTime OBJECT-TYPE

SYNTAX INTEGER
ACCESS read-only
STATUS mandatory

DESCRIPTION

"This time value determines the interval length during which no more than two Configuration bridge PDUs shall be transmitted by this node, in units of hundredths of a second."

REFERENCE "IEEE 802.1D-1990: Section 4.5.3.14"

-- 1.3.6.1.2.1.17.2.10 -- ::= { dot1dStp 10 }

dot1dStpForwardDelay OBJECT-TYPE

SYNTAX Timeout
ACCESS read-only
STATUS mandatory

DESCRIPTION

"This time value, measured in units of hundredths of a second, controls how fast a port changes its spanning state when moving towards the Forwarding state. The value determines how long the port stays in each of the Listening and Learning states, which precede the Forwarding state. This value is also used, when a topology change has been detected and is underway, to age all dynamic entries in the Forwarding Database. [Note that this value is the one that this bridge is currently using, in contrast to dot1dStpBridgeForwardDelay which is the value that this bridge and all others would start using if/when this bridge were to become the root.]"

REFERENCE "IEEE 802.1D-1990: Section 4.5.3.6"

-- 1.3.6.1.2.1.17.2.11 -- ::= { dot1dStp 11 }

dot1dStpBridgeMaxAge OBJECT-TYPE

SYNTAX Timeout (600..4000)
ACCESS read-write
STATUS mandatory

DESCRIPTION

"The value that all bridges use for MaxAge when this bridge is acting as the root. Note that 802.1D-1990 specifies that the range for this parameter is related to the value of dot1dStpBridgeHelloTime. The granularity of this timer is specified by 802.1D-1990 to be 1 second. An agent may return a badValue error if a set is attempted to a value which is not a whole number of seconds."

```

REFERENCE "IEEE 802.1D-1990: Section 4.5.3.8"
-- 1.3.6.1.2.1.17.2.12 -- ::= { dot1dStp 12 }

dot1dStpBridgeHelloTime OBJECT-TYPE
SYNTAX Timeout (100..1000)
ACCESS read-write
STATUS mandatory
DESCRIPTION
    "The value that all bridges use for HelloTime when
    this bridge is acting as the root. The
    granularity of this timer is specified by 802.1D-
    1990 to be 1 second. An agent may return a
    badValue error if a set is attempted to a value
    which is not a whole number of seconds."
REFERENCE "IEEE 802.1D-1990: Section 4.5.3.9"
-- 1.3.6.1.2.1.17.2.13 -- ::= { dot1dStp 13 }

dot1dStpBridgeForwardDelay OBJECT-TYPE
SYNTAX Timeout (400..3000)
ACCESS read-write
STATUS mandatory
DESCRIPTION
    "The value that all bridges use for ForwardDelay
    when this bridge is acting as the root. Note that
    802.1D-1990 specifies that the range for this
    parameter is related to the value of
    dot1dStpBridgeMaxAge. The granularity of this
    timer is specified by 802.1D-1990 to be 1 second.
    An agent may return a badValue error if a set is
    attempted to a value which is not a whole number
    of seconds."
REFERENCE "IEEE 802.1D-1990: Section 4.5.3.10"
-- 1.3.6.1.2.1.17.2.14 -- ::= { dot1dStp 14 }
-- The Spanning Tree Port Table

dot1dStpPortTable OBJECT-TYPE
SYNTAX SEQUENCE OF Dot1dStpPortEntry
ACCESS not-accessible
STATUS mandatory
DESCRIPTION
    "A table that contains port-specific information
    for the Spanning Tree Protocol."
-- 1.3.6.1.2.1.17.2.15 -- ::= { dot1dStp 15 }

dot1dStpPortEntry OBJECT-TYPE
SYNTAX Dot1dStpPortEntry
ACCESS not-accessible
STATUS mandatory
DESCRIPTION
    "A list of information maintained by every port
    about the Spanning Tree Protocol state for that
    port."
INDEX {
    dot1dStpPort
}
-- 1.3.6.1.2.1.17.2.15.1 -- ::= { dot1dStpPortTable 1 }

Dot1dStpPortEntry ::= SEQUENCE {
    dot1dStpPort INTEGER,
    dot1dStpPortPriority INTEGER,
    dot1dStpPortState INTEGER,
    dot1dStpPortEnable INTEGER,
    dot1dStpPortPathCost INTEGER,
    dot1dStpPortDesignatedRoot BridgeId,
    dot1dStpPortDesignatedCost INTEGER,
    dot1dStpPortDesignatedBridge BridgeId,
    dot1dStpPortDesignatedPort OCTET STRING,
    dot1dStpPortForwardTransitions Counter
}

```

dot1dStpPort OBJECT-TYPE
SYNTAX INTEGER (1..65535)
ACCESS read-only
STATUS mandatory
DESCRIPTION
"The port number of the port for which this entry contains Spanning Tree Protocol management information."
REFERENCE "IEEE 802.1D-1990: Section 6.8.2.1.2"
-- 1.3.6.1.2.1.17.2.15.1.1 -- ::= { dot1dStpPortEntry 1 }

dot1dStpPortPriority OBJECT-TYPE
SYNTAX INTEGER (0..255)
ACCESS read-write
STATUS mandatory
DESCRIPTION
"The value of the priority field which is contained in the first (in network byte order) octet of the (2 octet long) Port ID. The other octet of the Port ID is given by the value of dot1dStpPort."
REFERENCE "IEEE 802.1D-1990: Section 4.5.5.1"
-- 1.3.6.1.2.1.17.2.15.1.2 -- ::= { dot1dStpPortEntry 2 }

dot1dStpPortState OBJECT-TYPE
SYNTAX INTEGER {
disabled(1),
blocking(2),
listening(3),
learning(4),
forwarding(5),
broken(6) }
ACCESS read-only
STATUS mandatory
DESCRIPTION
"The port's current state as defined by application of the Spanning Tree Protocol. This state controls what action a port takes on reception of a frame. If the bridge has detected a port that is malfunctioning it will place that port into the broken(6) state. For ports which are disabled (see dot1dStpPortEnable), this object will have a value of disabled(1)."
REFERENCE "IEEE 802.1D-1990: Section 4.5.5.2"
-- 1.3.6.1.2.1.17.2.15.1.3 -- ::= { dot1dStpPortEntry 3 }

dot1dStpPortEnable OBJECT-TYPE
SYNTAX INTEGER {
enabled(1),
disabled(2) }
ACCESS read-write
STATUS mandatory
DESCRIPTION
"The enabled/disabled status of the port."
REFERENCE "IEEE 802.1D-1990: Section 4.5.5.2"
-- 1.3.6.1.2.1.17.2.15.1.4 -- ::= { dot1dStpPortEntry 4 }

dot1dStpPortPathCost OBJECT-TYPE
SYNTAX INTEGER (1..65535)
ACCESS read-write
STATUS mandatory
DESCRIPTION
"The contribution of this port to the path cost of paths towards the spanning tree root which include this port. 802.1D-1990 recommends that the default value of this parameter be in inverse proportion to the speed of the attached LAN."

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REFERENCE "IEEE 802.1D-1990: Section 4.5.5.3"
-- 1.3.6.1.2.1.17.2.15.1.5 -- ::= { dot1dStpPortEntry 5 }

dot1dStpPortDesignatedRoot OBJECT-TYPE
SYNTAX BridgeId
ACCESS read-only
STATUS mandatory
DESCRIPTION
    "The unique Bridge Identifier of the Bridge
    recorded as the Root in the Configuration BPDUs
    transmitted by the Designated Bridge for the
    segment to which the port is attached."
REFERENCE "IEEE 802.1D-1990: Section 4.5.5.4"
-- 1.3.6.1.2.1.17.2.15.1.6 -- ::= { dot1dStpPortEntry 6 }

dot1dStpPortDesignatedCost OBJECT-TYPE
SYNTAX INTEGER
ACCESS read-only
STATUS mandatory
DESCRIPTION
    "The path cost of the Designated Port of the
    segment connected to this port. This value is
    compared to the Root Path Cost field in received
    bridge PDUs."
REFERENCE "IEEE 802.1D-1990: Section 4.5.5.5"
-- 1.3.6.1.2.1.17.2.15.1.7 -- ::= { dot1dStpPortEntry 7 }

dot1dStpPortDesignatedBridge OBJECT-TYPE
SYNTAX BridgeId
ACCESS read-only
STATUS mandatory
DESCRIPTION
    "The Bridge Identifier of the bridge which this
    port considers to be the Designated Bridge for
    this port's segment."
REFERENCE "IEEE 802.1D-1990: Section 4.5.5.6"
-- 1.3.6.1.2.1.17.2.15.1.8 -- ::= { dot1dStpPortEntry 8 }

dot1dStpPortDesignatedPort OBJECT-TYPE
SYNTAX OCTET STRING (SIZE (2))
ACCESS read-only
STATUS mandatory
DESCRIPTION
    "The Port Identifier of the port on the Designated
    Bridge for this port's segment."
REFERENCE "IEEE 802.1D-1990: Section 4.5.5.7"
-- 1.3.6.1.2.1.17.2.15.1.9 -- ::= { dot1dStpPortEntry 9 }

dot1dStpPortForwardTransitions OBJECT-TYPE
SYNTAX Counter
ACCESS read-only
STATUS mandatory
DESCRIPTION
    "The number of times this port has transitioned
    from the Learning state to the Forwarding state."
-- 1.3.6.1.2.1.17.2.15.1.10 -- ::= { dot1dStpPortEntry 10 }
-- the dot1dTp group
-- Implementation of the dot1dTp group is optional. It is
-- implemented by those bridges that support the transparent
-- bridging mode. A transparent or SRT bridge will implement
-- this group.

dot1dTpLearnedEntryDiscards OBJECT-TYPE
SYNTAX Counter
ACCESS read-only
STATUS mandatory
DESCRIPTION
    "The total number of Forwarding Database entries,
    which have been or would have been learnt, but

```

have been discarded due to a lack of space to store them in the Forwarding Database. If this counter is increasing, it indicates that the Forwarding Database is regularly becoming full (a condition which has unpleasant performance effects on the subnetwork). If this counter has a significant value but is not presently increasing, it indicates that the problem has been occurring but is not persistent."

REFERENCE "IEEE 802.1D-1990: Section 6.7.1.1.3"

-- 1.3.6.1.2.1.17.4.1 -- ::= { dot1dTp 1 }

dot1dTpAgingTime OBJECT-TYPE

SYNTAX INTEGER (10..1000000)

ACCESS read-write

STATUS mandatory

DESCRIPTION

"The timeout period in seconds for aging out dynamically learned forwarding information. 802.1D-1990 recommends a default of 300 seconds."

REFERENCE "IEEE 802.1D-1990: Section 6.7.1.1.3"

-- 1.3.6.1.2.1.17.4.2 -- ::= { dot1dTp 2 }

-- The Forwarding Database for Transparent Bridges

dot1dTpFdbTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot1dTpFdbEntry

ACCESS not-accessible

STATUS mandatory

DESCRIPTION

"A table that contains information about unicast entries for which the bridge has forwarding and/or filtering information. This information is used by the transparent bridging function in determining how to propagate a received frame."

-- 1.3.6.1.2.1.17.4.3 -- ::= { dot1dTp 3 }

dot1dTpFdbEntry OBJECT-TYPE

SYNTAX Dot1dTpFdbEntry

ACCESS not-accessible

STATUS mandatory

DESCRIPTION

"Information about a specific unicast MAC address for which the bridge has some forwarding and/or filtering information."

INDEX {
dot1dTpFdbAddress

}

-- 1.3.6.1.2.1.17.4.3.1 -- ::= { dot1dTpFdbTable 1 }

Dot1dTpFdbEntry ::= SEQUENCE {
dot1dTpFdbAddress MacAddress,
dot1dTpFdbPort INTEGER,
dot1dTpFdbStatus INTEGER
}

dot1dTpFdbAddress OBJECT-TYPE

SYNTAX MacAddress

ACCESS read-only

STATUS mandatory

DESCRIPTION

"A unicast MAC address for which the bridge has forwarding and/or filtering information."

REFERENCE "IEEE 802.1D-1990: Section 3.9.1, 3.9.2"

-- 1.3.6.1.2.1.17.4.3.1.1 -- ::= { dot1dTpFdbEntry 1 }

dot1dTpFdbPort OBJECT-TYPE

SYNTAX INTEGER

ACCESS read-only

STATUS mandatory
DESCRIPTION

"Either the value '0', or the port number of the port on which a frame having a source address equal to the value of the corresponding instance of dot1dTpFdbAddress has been seen. A value of '0' indicates that the port number has not been learned but that the bridge does have some forwarding/filtering information about this address (e.g. in the dot1dStaticTable). Implementors are encouraged to assign the port value to this object whenever it is learned even for addresses for which the corresponding value of dot1dTpFdbStatus is not learned(3)."

-- 1.3.6.1.2.1.17.4.3.1.2 -- ::= { dot1dTpFdbEntry 2 }

dot1dTpFdbStatus OBJECT-TYPE

SYNTAX INTEGER {
 other(1),
 invalid(2),
 learned(3),
 self(4),
 mgmt(5) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"The status of this entry. The meanings of the values are:

other(1) : none of the following. This would include the case where some other MIB object (not the corresponding instance of dot1dTpFdbPort, nor an entry in the dot1dStaticTable) is being used to determine if and how frames addressed to the value of the corresponding instance of dot1dTpFdbAddress are being forwarded.

invalid(2) : this entry is not longer valid (e.g., it was learned but has since aged-out), but has not yet been flushed from the table.

learned(3) : the value of the corresponding instance of dot1dTpFdbPort was learned, and is being used.

self(4) : the value of the corresponding instance of dot1dTpFdbAddress represents one of the bridge's addresses. The corresponding instance of dot1dTpFdbPort indicates which of the bridge's ports has this address.

mgmt(5) : the value of the corresponding instance of dot1dTpFdbAddress is also the value of an existing instance of dot1dStaticAddress."

-- 1.3.6.1.2.1.17.4.3.1.3 -- ::= { dot1dTpFdbEntry 3 }

-- Port Table for Transparent Bridges

dot1dTpPortTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot1dTpPortEntry

ACCESS not-accessible

STATUS mandatory

DESCRIPTION

```

        "A table that contains information about every
        port that is associated with this transparent
        bridge."
-- 1.3.6.1.2.1.17.4.4 -- ::= { dot1dTp 4 }

dot1dTpPortEntry OBJECT-TYPE
    SYNTAX      Dot1dTpPortEntry
    ACCESS      not-accessible
    STATUS      mandatory
    DESCRIPTION
        "A list of information for each port of a
        transparent bridge."
    INDEX {
        dot1dTpPort
    }
-- 1.3.6.1.2.1.17.4.4.1 -- ::= { dot1dTpPortTable 1 }

Dot1dTpPortEntry ::= SEQUENCE {
    dot1dTpPort          INTEGER,
    dot1dTpPortMaxInfo  INTEGER,
    dot1dTpPortInFrames Counter,
    dot1dTpPortOutFrames Counter,
    dot1dTpPortInDiscards Counter
}

dot1dTpPort OBJECT-TYPE
    SYNTAX      INTEGER (1..65535)
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
        "The port number of the port for which this entry
        contains Transparent bridging management
        information."
-- 1.3.6.1.2.1.17.4.4.1.1 -- ::= { dot1dTpPortEntry 1 }
-- It would be nice if we could use ifMtu as the size of the
-- largest INFO field, but we can't because ifMtu is defined
-- to be the size that the (inter-)network layer can use which
-- can differ from the MAC layer (especially if several layers
-- of encapsulation are used).

dot1dTpPortMaxInfo OBJECT-TYPE
    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
        "The maximum size of the INFO (non-MAC) field that
        this port will receive or transmit."
-- 1.3.6.1.2.1.17.4.4.1.2 -- ::= { dot1dTpPortEntry 2 }

dot1dTpPortInFrames OBJECT-TYPE
    SYNTAX      Counter
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
        "The number of frames that have been received by
        this port from its segment. Note that a frame
        received on the interface corresponding to this
        port is only counted by this object if and only if
        it is for a protocol being processed by the local
        bridging function, including bridge management
        frames."
    REFERENCE   "IEEE 802.1D-1990: Section 6.6.1.1.3"
-- 1.3.6.1.2.1.17.4.4.1.3 -- ::= { dot1dTpPortEntry 3 }

dot1dTpPortOutFrames OBJECT-TYPE
    SYNTAX      Counter
    ACCESS      read-only
    STATUS      mandatory

```

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."

REFERENCE "IEEE 802.1D-1990: Section 6.6.1.1.3"

-- 1.3.6.1.2.1.17.4.4.1.4 -- ::= { dot1dTpPortEntry 4 }

dot1dTpPortInDiscards OBJECT-TYPE

SYNTAX Counter

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Count of valid frames received which were discarded (i.e., filtered) by the Forwarding Process."

REFERENCE "IEEE 802.1D-1990: Section 6.6.1.1.3"

-- 1.3.6.1.2.1.17.4.4.1.5 -- ::= { dot1dTpPortEntry 5 }

-- The Static (Destination-Address Filtering) Database

-- Implementation of this group is optional.

dot1dStaticTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot1dStaticEntry

ACCESS not-accessible

STATUS mandatory

DESCRIPTION

"A table containing filtering information configured into the bridge by (local or network) management specifying the set of ports to which frames received from specific ports and containing specific destination addresses are allowed to be forwarded. The value of zero in this table as the port number from which frames with a specific destination address are received, is used to specify all ports for which there is no specific entry in this table for that particular destination address. Entries are valid for unicast and for group/broadcast addresses."

REFERENCE "IEEE 802.1D-1990: Section 6.7.2"

-- 1.3.6.1.2.1.17.5.1 -- ::= { dot1dStatic 1 }

dot1dStaticEntry OBJECT-TYPE

SYNTAX Dot1dStaticEntry

ACCESS not-accessible

STATUS mandatory

DESCRIPTION

"Filtering information configured into the bridge by (local or network) management specifying the set of ports to which frames received from a specific port and containing a specific destination address are allowed to be forwarded."

REFERENCE "IEEE 802.1D-1990: Section 6.7.2"

INDEX {
dot1dStaticAddress,
dot1dStaticReceivePort
}

-- 1.3.6.1.2.1.17.5.1.1 -- ::= { dot1dStaticTable 1 }

Dot1dStaticEntry ::= SEQUENCE {
dot1dStaticAddress MacAddress,
dot1dStaticReceivePort INTEGER,
dot1dStaticAllowedToGoTo OCTET STRING,
dot1dStaticStatus INTEGER
}

dot1dStaticAddress OBJECT-TYPE
SYNTAX MacAddress
ACCESS read-write
STATUS mandatory
DESCRIPTION
"The destination MAC address in a frame to which this entry's filtering information applies. This object can take the value of a unicast address, a group address or the broadcast address."
REFERENCE *"IEEE 802.1D-1990: Section 3.9.1, 3.9.2"*
-- 1.3.6.1.2.1.17.5.1.1.1 -- ::= { dot1dStaticEntry 1 }

dot1dStaticReceivePort OBJECT-TYPE
SYNTAX INTEGER
ACCESS read-write
STATUS mandatory
DESCRIPTION
"Either the value '0', or the port number of the port from which a frame must be received in order for this entry's filtering information to apply. A value of zero indicates that this entry applies on all ports of the bridge for which there is no other applicable entry."
-- 1.3.6.1.2.1.17.5.1.1.2 -- ::= { dot1dStaticEntry 2 }

dot1dStaticAllowedToGoTo OBJECT-TYPE
SYNTAX OCTET STRING
ACCESS read-write
STATUS mandatory
DESCRIPTION
"The set of ports to which frames received from a specific port and destined for a specific MAC address, are allowed to be forwarded. Each octet within the value of this object specifies a set of eight ports, with the first octet specifying ports 1 through 8, the second octet specifying ports 9 through 16, etc. Within each octet, the most significant bit represents the lowest numbered port, and the least significant bit represents the highest numbered port. Thus, each port of the bridge is represented by a single bit within the value of this object. If that bit has a value of '1' then that port is included in the set of ports; the port is not included if its bit has a value of '0'. (Note that the setting of the bit corresponding to the port from which a frame is received is irrelevant.) The default value of this object is a string of ones of appropriate length."
-- 1.3.6.1.2.1.17.5.1.1.3 -- ::= { dot1dStaticEntry 3 }

dot1dStaticStatus OBJECT-TYPE
SYNTAX INTEGER {
 other(1),
 invalid(2),
 permanent(3),
 deleteOnReset(4),
 deleteOnTimeout(5) }
ACCESS read-write
STATUS mandatory
DESCRIPTION
"This object indicates the status of this entry. The default value is permanent(3)."

other(1) - this entry is currently in use but the conditions under which it will remain so are different from each of the following values.

```
invalid(2) - writing this value to the object
             removes the corresponding entry.
permanent(3) - this entry is currently in use
               and will remain so after the next reset
               of the bridge.
deleteOnReset(4) - this entry is currently in
                  use and will remain so until the next
                  reset of the bridge.
deleteOnTimeout(5) - this entry is currently
                    in use and will remain so until it is
                    aged out."
-- 1.3.6.1.2.1.17.5.1.1.4 -- ::= { dot1dStaticEntry 4 }
-- Traps for use by Bridges
-- Traps for the Spanning Tree Protocol
```

```
newRoot TRAP-TYPE
ENTERPRISE dot1dBridge
```

DESCRIPTION

"The newRoot trap indicates that the sending agent has become the new root of the Spanning Tree; the trap is sent by a bridge soon after its election as the new root, e.g., upon expiration of the Topology Change Timer immediately subsequent to its election. Implementation of this trap is optional."

```
::= 1
```

```
topologyChange TRAP-TYPE
ENTERPRISE dot1dBridge
```

DESCRIPTION

"A topologyChange trap is sent by a bridge when any of its configured ports transitions from the Learning state to the Forwarding state, or from the Forwarding state to the Blocking state. The trap is not sent if a newRoot trap is sent for the same transition. Implementation of this trap is optional."

```
::= 2
```

END