

Dedicated Token Ring Interface MIB

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Abstract

This document contains an extract from the approved text of IEEE standard 802.5R 'Dedicated Token Ring'. The extract comprises the Interface MIB for the Dedicated Token Ring interface, in SNMPv2 format. There are no changes to the MIB from the Draft 7 version.

802.5R is a standard that encompasses the existing 802.5 token-passing method of operation, and also defines a new duplex method of operation for use only on dedicated point to point links, that does not use tokens for data transmission.

Background

In the past, SNMP Interface MIBs for IEEE 802 standards have been written by members of the IETF Network Management Working Group, on the basis of GDMO management information in the IEEE document. However, in this case, the draft IEEE 802.5R standard contains its management information in SNMP MIB format.

Brief Introduction to Dedicated Token Ring

The operation of Dedicated Token Ring (DTR) involves communication between two distinct entities. These are the DTR Station, and the DTR Concentrator Port (C-Port). A DTR link consists of one DTR Station and one C-Port. To provide links between DTR Concentrators, a C-Port may act as a DTR Station (C-Port in Station Emulation Mode).

When operating as a dedicated link, there is no token passing, and the Transmit Immediate (TXI) function is used to transmit data.

In addition, DTR Stations and C-Ports are required to be able to support token-passing (TKP) operation, also referred to as Classic Token Ring operation.

Stations and C-Ports will automatically detect the appropriate access protocol to use when they are enabled.

In summary, DTR provides a way of connecting a Station to a Concentrator on a dedicated link with an aggregate throughput of 32 MBits/sec, and also provides backwards compatibility with shared media token passing operation at 16 or 4 MBits/sec.

DTR Interface MIB

DtrMacMIB DEFINITIONS ::= BEGIN

IMPORTS

```
transmission
    FROM RFC1213-MIB
MODULE-IDENTITY, OBJECT-TYPE, Counter32, NOTIFICATION-TYPE
    FROM SNMPv2-SMI
InterfaceIndex
    FROM IF-MIB
MODULE-COMPLIANCE, OBJECT-GROUP, NOTIFICATION-GROUP
    FROM SNMPv2-CONF
TruthValue, DisplayString, MacAddress, TimeStamp
    FROM SNMPv2-TC;
```

```
dtrMacMIB    MODULE-IDENTITY
LAST-UPDATED "9606121045Z"
ORGANIZATION "IEEE 802.5 "
CONTACT-INFO
    "    Katie D. Lee
        IBM
        CNMA/664
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        Trevor Warwick
        3Com Europe,
        Boundary Way,
        Hemel Hempstead,
        Herts,
        UK.
        Trevor_Warwick@3com.com
        +44 1442 438000"
```

DESCRIPTION

```
    " The MIB Module for Dedicated Token Ring MACs"
 ::= {transmission 86 }
```

```
dtrMacObjects    OBJECT IDENTIFIER ::= { dtrMacMIB 1 }
dtrMacTraps      OBJECT IDENTIFIER ::= { dtrMacMIB 2 }
dtrMacConformance OBJECT IDENTIFIER ::= { dtrMacMIB 3 }
```

```
_ _*****
-- This SNMP MIB Module contains definitions for management
-- of both the DTR station (SMAC) and the DTR C-Port (PMAC).
--
-- A DTR Station using TXI protocol has an entry in the
-- following tables :
--         txiProtocolTable
--         dtrStationTable
```



```
--
-- A DTR Station using TKP protocol shall implement RFC 1748
-- IEEE 802.5 Token Ring MIB, as well as the following table:
--     dtrStationTable
--
-- A C-Port in Port Mode using TXI protocol has an entry in
-- each of the following tables:
--     txiProtocolTable
--     dtrCportTable
--
-- A C-Port in Port Mode using TKP protocol shall implement RFC
-- 1748-IEEE 802.5 Token Ring MIB, as well as the following
-- table:
--     dtrCportTable
--
-- A C-Port in Station Emulation Mode using TXI Protocol has an
-- entry in each of the following tables:
--     txiProtocolTable
--     dtrStationTable
--     dtrCportTable
--
-- A C-Port in Station Emulation Mode using TKP protocol shall
-- implement RFC 1748-IEEE 802.5 Token Ring MIB, as well as the
-- following tables:
--     dtrCportTable
--     dtrStationTable
--
--_*****

-- Relationship to RFC1573

-- Layering Model
--     For the typical usage of this IEEE 802.5 DTR MIB module,
--     there will be no sublayers "above" or "below" the 802.5
--     DTR interface.  However, this MIB module does not preclude
--     such layering.

-- Virtual Circuits
--     802.5 DTR does not support virtual circuits.

-- ifTestTable
--     This MIB Module does not define tests.

-- ifRcvAddressTable
--     The ifRcvAddressTable is defined to contain all MAC
--     addresses, unicast, multicast (group) and broadcast, for
--     which an interface will receive packets.  For 802.5 DTR
--     interfaces, its use includes functional addresses.  The
```



```
-- format of the address, contained in ifRcvAddressAddress is
-- the same as for ifPhysAddress.

-- For functional addresses on a particular 802.5 DTR
-- interface, only one ifRcvAddressTable entry is required.
-- That entry is the one for the address which has the
-- functional address bit ANDed with the bit mask of all
-- functional address for which the interface will accept
-- frames.

-- ifPhysAddress
-- For an 802.5 DTR interface, ifPhysAddress contains the
-- interface's IEEE MAC address, stored as an octet string of
-- length 6, in IEEE 802.1a "canonical" order, i.e., the Group
-- Bit is positioned as the low-order bit (0x01) of the first
-- octet.

-- ifType
-- The objects defined in this MIB Module apply to each
-- interface for which the ifType has the value:
--     iso88025Dtr = 86
```

```
-- *****
-- TXI Protocol
-- This table provides information about an 802.5 TXI MAC.
-- A managed system will have one entry in this table
-- for each of its TXI MAC interfaces. It is mandatory
-- that systems having TXI interfaces implement this
-- table in addition to the generic interfaces table and
-- its generic extensions, defined in RFC-1573.
-- *****
```

```
txiProtocolTable      OBJECT-TYPE
    SYNTAX              SEQUENCE OF TxProtocolEntry
    MAX-ACCESS          not-accessible
    STATUS               current
    DESCRIPTION
        "This table contains TXI interface characteristics.
        There is one entry for each TXI interface in the
        managed system."
 ::= { dtrMacObjects 1 }
```

```
txiProtocolEntry      OBJECT-TYPE
    SYNTAX              TxProtocolEntry
    MAX-ACCESS          not-accessible
    STATUS               current
    DESCRIPTION
        "A list of characteristics for an 802.5 TXI interface."
    INDEX
```



```

    { txiProtocolIfIndex }
 ::= { txiProtocolTable 1 }

```

```

TxiprotoEntry ::= SEQUENCE {
    txiProtocolIfIndex          InterfaceIndex,
    txiProtocolMacType          INTEGER,
    txiProtocolFunctionalAddress MacAddress,
    txiProtocolUpstreamNeighborAddress MacAddress,
    txiProtocolMicrocodeLevel   OCTET STRING,
    txiProtocolProductInstanceId OCTET STRING,
    txiProtocolAuthorizedFunctionClasses OCTET STRING,
    txiProtocolErrorReportTimer  INTEGER,
    txiProtocolPhysicalDropNumber OCTET STRING,
    txiProtocolRingNumber        OCTET STRING,
    txiProtocolRingStatus        INTEGER,
    txiProtocolJoinState         INTEGER,
    txiProtocolMonitorState      INTEGER,
    txiProtocolBeaconSA          MacAddress,
    txiProtocolBeaconType        INTEGER,
    txiProtocolBeaconUNA         MacAddress,
    txiProtocolBeaconPDN         OCTET STRING,
    txiProtocolEventStatus       INTEGER }

```

```

txiProtocolIfIndex      OBJECT-TYPE
    SYNTAX                InterfaceIndex
    MAX-ACCESS            not-accessible
    STATUS                current
    DESCRIPTION
        "This object identifies the interface for which this entry
        contains management information.  The value of this object for
        a particular interface has the same value as the ifIndex
        object, defined in RFC-1573, for the same interface.  "
 ::= { txiProtocolEntry 1 }

```

```

txiProtocolMacType      OBJECT-TYPE
    SYNTAX                INTEGER{ station(1), cPortPortMode(2),
                                cPortStnEmulation(3) }
    MAX-ACCESS            read-only
    STATUS                current
    DESCRIPTION
        "This objects indicates whether this MAC interface is a
        station, a C-Port in Port Mode, or a C-Port in Station
        Emulation Mode.  "
 ::= { txiProtocolEntry 2 }

```

```

txiProtocolFunctionalAddress OBJECT-TYPE
    SYNTAX                MacAddress
    MAX-ACCESS            read-write

```


STATUS current

DESCRIPTION

" This object specifies the value of the Functional Addresses subvector X'2C' used in the Report Station Addresses and Report Station Attachments MAC frames. The value of this object can be set by management."

::= { txiProtocolEntry 3 }

txiProtocolUpstreamNeighborAddress OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" This object specifies the Individual Address of the nearest upstream neighbor. The value of this object is derived from the Heart Beat frame. "

::= { txiProtocolEntry 4 }

txiProtocolMicrocodeLevel OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(1..32))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object specifies the value of the Ring Station Version Number subvector X'23' used in the Report Station State MAC frame. The value of this object cannot be set by management. "

::= { txiProtocolEntry 5 }

txiProtocolProductInstanceId OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(1..31))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" This object specifies the value of the Product Instance ID subvector X'22' used in the Report Station Attachment and Report New Active Monitor MAC frames. The value of this object cannot be set by management."

::= { txiProtocolEntry 6 }

txiProtocolAuthorizedFunctionClasses OBJECT-TYPE

SYNTAX OCTET STRING(SIZE(2))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" This object specifies the value set by the Authorized Function Classes subvector X'06' of the Change Parameters MAC frame. "


```
::= { txiProtocolEntry 7 }
```

```
txiProtocolErrorReportTimer    OBJECT-TYPE
    SYNTAX                      INTEGER (0..65535)
    UNITS                       "1/100 second"
    MAX-ACCESS                  read-only
    STATUS                      current
    DESCRIPTION
        "This object specifies the value of the timer TSER as set by
        the Error Timer Value subvector X'05' from the Change
        Parameters or the Initialize Station MAC frame. This object
        indicates the value in .01 second increments. "
```

```
::= { txiProtocolEntry 8 }
```

```
txiProtocolPhysicalDropNumber OBJECT-TYPE
    SYNTAX                      OCTET STRING(SIZE(4))
    MAX-ACCESS                  read-only
    STATUS                      current
    DESCRIPTION
        "This object specifies the value set by the Assign Physical
        Drop Number subvector X'04' of the Change Parameters or the
        Initialize Station MAC frame. "
```

```
::= { txiProtocolEntry 9 }
```

```
txiProtocolRingNumber          OBJECT-TYPE
    SYNTAX                      OCTET STRING(SIZE(2))
    MAX-ACCESS                  read-only
    STATUS                      current
    DESCRIPTION
        "This object specifies the value set by the Local Ring
        Number subvector X'03' from the Change Parameters or
        Initialize Station MAC frame. "
```

```
::= { txiProtocolEntry 10 }
```

```
txiProtocolRingStatus          OBJECT-TYPE
    SYNTAX                      INTEGER (0..262143)
    MAX-ACCESS                  read-only
    STATUS                      current
    DESCRIPTION
        "The current interface status which can be used to diagnose
        fluctuating problems that can occur on token rings, after a
        station has successfully been added to the ring.
```

Before an open is completed, this object has the value for the 'no status' condition. The txiProtocolRingStatus objects provide for debugging problems when the station cannot even enter the ring.

The object's value is a sum of values, one for each currently applicable condition. The following values are defined for various conditions:

0 = No problems detected
 32 = Ring Recovery
 256 = Remove Received
 512 = reserved
 1024 = Auto-Removal Error
 2048 = Lobe Wire Fault
 4096 = Transmit Beacon
 8192 = Soft Error
 16384 = Hard Error
 32768 = Signal Loss
 131072 = no status, open not completed."

```
::= { txiProtocolEntry 11 }
```

```
txiProtocolJoinState      OBJECT-TYPE
    SYNTAX                 INTEGER{
                            notSpecified(1),
                            bypass(2),
                            registration(3),
                            lobeTest(4),
                            duplicateAddrCheck(5),
                            duplicateAddrDetected(6),
                            joinCompleteTXI(7),
                            awaitNotification(8) }

    MAX-ACCESS              read-only
    STATUS                  current
    DESCRIPTION
        "This object specifies the present state of the Join FSM.
        The value will be one of the following:
        (1) notSpecified,
        (2) bypass (JS=BP),
        (3) registration (JS=PREG or JS=SREG),
        (4) lobeTest (JS=PLT or JS=SLT),
        (5) duplicateAddrCheck (JS=PDAC or JS=SDAC),
        (6) duplicateAddrDetected (JS=PDAD)
        (7) joinComplete TXI (JS=PJCI or JS=SJC),
        (8) awaitNotification (JS=PANNC)          "
```

```
::= { txiProtocolEntry 12 }
```

```
txiProtocolMonitorState   OBJECT-TYPE
    SYNTAX                 INTEGER{
                            notSpecified(1),
                            operational(2),
                            beaconTransmit(3),
                            wireFaultDelay(4),
```



```

                                internalTest(5) }
MAX-ACCESS                      read-only
STATUS                          current
DESCRIPTION
    "This object specifies the present state of the Monitor FSM.
    The value will be one of the following:
        (1) notSpecified,
        (2) Operational (MS=POPT or MS=SOPT),
        (3) TransmitBeacon (MS=PTBN or MS=STBN),
        (4) wireFaultDelay (MS=PITW or MS=SITW)
        (5) Internal Test Wait (MS=PIT or MS=SIT)."
 ::= { txiProtocolEntry 13 }

```

```

txiProtocolBeaconSA             OBJECT-TYPE
    SYNTAX                      MacAddress
    MAX-ACCESS                  read-only
    STATUS                      current
    DESCRIPTION
        "This object specifies the source address used in the last
        Beacon MAC frame transmitted or received. "
 ::= { txiProtocolEntry 14 }

```

```

txiProtocolBeaconType           OBJECT-TYPE
    SYNTAX                      INTEGER{
                                    type1(1),
                                    type2(2),
                                    type3(3),
                                    type4(4),
                                    type5(5) }
    MAX-ACCESS                  read-only
    STATUS                      current
    DESCRIPTION
        "This object specifies the value of the Beacon Type
        subvector X'01' used in the last Beacon MAC frame
        transmitted or received as follows:
            (1) notSpecified
            (2) signalLoss
            (3) notUsed
            (4) notUsed
            (5) heartBeatFailure "
 ::= { txiProtocolEntry 15 }

```

```

txiProtocolBeaconUNA            OBJECT-TYPE
    SYNTAX                      MacAddress
    MAX-ACCESS                  read-only
    STATUS                      current
    DESCRIPTION
        " This object specifies the value of the UNA subvector X'02'

```


used in the last Beacon MAC frame transmitted or received."
 ::= { txiProtocolEntry 16 }

txiProtocolBeaconPDN OBJECT-TYPE
 SYNTAX OCTET STRING (SIZE(4))
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This object specifies the value of the Physical Drop Number
 subvector X'0B' used in the last Beacon MAC frame
 transmitted or received."
 ::= { txiProtocolEntry 17 }

txiProtocolEventStatus OBJECT-TYPE
 SYNTAX INTEGER {
 macInsertREQReceived(1),
 macInsertRSPReceived(2),
 reportError(3),
 heartBeatLost(4),
 signalLoss(5),
 beaconReceived(6),
 remove(7),
 internalError(8),
 stationOrCPortError(9),
 wireFault(10),
 claimReceived(11),
 purgeReceived(12),
 standbyReceived(13),
 invalidSourceAddress(14),
 activeMonitorReceived(15),
 phantomLoss (16),
 duplicateAddressDetected(17)}
 MAX-ACCESS accessible-for-notify
 STATUS current
 DESCRIPTION
 "This object specifies the latest event status of the TXI
 interface."
 ::= { txiProtocolEntry 18 }

```
-- *****
-- Station Protocol Characteristics Table
-- This table contains protocol information for DTR stations
-- and C-Ports in station emulation mode (both TKP and TXI).
-- There is an entry in this table for each station
-- in a managed system.
-- *****
```

dtrStationTable OBJECT-TYPE


```

SYNTAX          SEQUENCE OF DtrStationEntry
MAX-ACCESS      not-accessible
STATUS          current
DESCRIPTION
    " This table contains characteristics for each DTR station.
    There is one entry for each interface in the managed
    system."

```

```
 ::= { dtrMacObjects 2 }
```

```

dtrStationEntry    OBJECT-TYPE
    SYNTAX          DtrStationEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "A list of station characteristics."
    INDEX

```

```
    { dtrStationIfIndex }
```

```
 ::= { dtrStationTable 1 }
```

```

DtrStationEntry ::= SEQUENCE {
    dtrStationIfIndex          InterfaceIndex,
    dtrStationStationType      INTEGER,
    dtrStationCurrentAccessProtocol  INTEGER,
    dtrStationRequestedAccessProtocol  OCTET STRING,
    dtrStationAccessProtocolResponse  OCTET STRING,
    -- policy variables
    dtrStationAccessProtocolMask      OCTET STRING,
    dtrStationIndividualAddressCount  OCTET STRING,
    dtrStationMaxFrameSize            INTEGER,
    dtrStationPhantomDriveSupport     OCTET STRING,
    -- policy flags
    dtrStationAdminErrorCountingOption  INTEGER,
    dtrStationAdminOpenOption           INTEGER,
    dtrStationAdminRegistrationOption   INTEGER,
    dtrStationAdminRejectRemoveOption   INTEGER,
    dtrStationAdminMediumRateOption     INTEGER,
    dtrStationAdminRegistrationQueryOption  INTEGER,
    dtrStationAdminRegistrationDeniedOption  INTEGER,
    dtrStationOperErrorCountingOption    INTEGER,
    dtrStationOperOpenOption            INTEGER,
    dtrStationOperRegistrationOption     INTEGER,
    dtrStationOperRejectRemoveOption     INTEGER,
    dtrStationOperMediumRateOption       INTEGER,
    dtrStationOperRegistrationQueryOption  INTEGER,
    dtrStationOperRegistrationDeniedOption  INTEGER
}

```

```

dtrStationIfIndex    OBJECT-TYPE

```


SYNTAX InterfaceIndex
MAX-ACCESS not-accessible
STATUS current

DESCRIPTION

" This object identifies the interface for which this entry contains management information. The value of this object for a particular interface has the same value as the ifIndex object, defined in [RFC-1573](#), for the same interface. "

::= { dtrStationEntry 1 }

dtrStationStationType OBJECT-TYPE

SYNTAX INTEGER {
 dtrStation(1),
 cPortInStnEmulation(2) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" This object specifies whether this entry is a DTR station or a C-Port in Station Emulation Mode. "

::= { dtrStationEntry 2 }

dtrStationCurrentAccessProtocol OBJECT-TYPE

SYNTAX INTEGER { tkp(1), txi(2) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" This object specifies which access protocol is currently in use by the MAC. The value of this object is either (1) TKP or (2) TXI. This object cannot be set by management. "

::= { dtrStationEntry 3 }

dtrStationRequestedAccessProtocol OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(2))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" This object specifies the value of the Access Protocol Request subvector X'0E' transmitted in the Registration Request MAC frame. The value X'0002' indicates TXI Access Protocol. If the station is running TKP protocol, the value is X'FFFF'. All other values are reserved for future standardization."

::= { dtrStationEntry 4 }

dtrStationAccessProtocolResponse OBJECT-TYPE

SYNTAX OCTET STRING(SIZE(2))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" This object specifies the value of the Access Protocol Response subvector X'0F' received from the Registration Response MAC frame. The value X'0000' means access denied and the value X'0002' indicates TXI and phantom and wire fault support method accepted."

```
::= { dtrStationEntry 5 }
```

dtrStationAccessProtocolMask	OBJECT-TYPE
SYNTAX	OCTET STRING(SIZE(2))
MAX-ACCESS	read-write
STATUS	current

DESCRIPTION

" This object specifies which access protocols can be supported by the station. This object indicates the value of the SPV(AP_MASK) variable. The value of this object is either: X'0001' (TKP), X'0002' (TXI) or X'0003' (TKPAndTXI). "

```
::= { dtrStationEntry 6 }
```

dtrStationIndividualAddressCount	OBJECT-TYPE
SYNTAX	OCTET STRING(SIZE(2))
MAX-ACCESS	read-write
STATUS	current

DESCRIPTION

" This object specifies the number of individual addresses supported by the MAC. This object is used to set the value of the Individual Address Count subvector X'21'. A value of X'0000' means that more than one individual address is not supported. A non-zero value specifies the number of individual address in use by this MAC. "

```
::= { dtrStationEntry 7 }
```

dtrStationMaxFrameSize	OBJECT-TYPE
SYNTAX	INTEGER(133..18200)
MAX-ACCESS	read-write
STATUS	current

DESCRIPTION

"This object specifies the maximum frame size that a MAC will transmit and indicates the value of the SPV(MAX_TX) variable. At 4 Mbit/s, the maximum permitted value is 4550. At 16 Mbit/s, the maximum permitted value is 18200. "

```
::= { dtrStationEntry 8 }
```

dtrStationPhantomDriveSupport	OBJECT-TYPE
SYNTAX	OCTET STRING(SIZE(2))
MAX-ACCESS	read-only
STATUS	current

DESCRIPTION

"This object specifies the MAC's support of Phantom Drive and Wire Fault detection. This object indicates the value of the SPV(PD) variable and the value of the Phantom subvector X'0C' used in the Registration Request MAC frame. There is currently only one value defined for PhantomDriveSupport and that value is X'0001' (PhantomDriveAndWireFault)."

::= { dtrStationEntry 9 }

dtrStationAdminErrorCountingOption OBJECT-TYPE

SYNTAX INTEGER {
 triggered(1),
 freeRunning(2)}

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object specifies how the MAC manages the error report timer. If set to triggered(1), the MAC resets TSER when the first error is received and, when TSER expires, sends an error report MAC frame. If set to freeRunning(2), each time TSER expires the MAC resets TSER and, if any of the error counters are not zero, sends the error report MAC frame. This object is used to set the value of the FSECO flag to be used at the next Connect.SMAC event. A write operation to this object will not change the operational value reflected in dtrStationOperErrorCountingOption until the next Connect.SMAC event. "

::= { dtrStationEntry 10 }

dtrStationAdminOpenOption OBJECT-TYPE

SYNTAX INTEGER{
 exitToClause4(1),
 enterBypass(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

" This object specifies the action of the station when a response is not received during the Registration process. If set to exitToClause4(1), then SMAC attempts to use the TKP Access Protocol by exits to clause 4. If set to enterBypass(2), then SMAC enters Bypass. This object indicates the value of the FSEPO flag to be used at the next Connect.SMAC event. A write operation to this object will not change the operational value reflected in dtrStationOperOpenOption until the next Connect.SMAC event."

::= { dtrStationEntry 11 }

dtrStationAdminRegistrationOption OBJECT-TYPE

SYNTAX INTEGER{
noRegistration (1),
dtrRegistration(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

" This object specifies if the station or C-Port in Station Emulation mode registers with the C-Port to request the use of an access protocol and a method of phantom drive and wire fault detection. If the value is noRegistration(1), then the station does not register and uses the Join FSM defined in clause 4. If the value is dtrRegistration(2), then the station uses the registration process by using the Join FSM defined in clause 9.2. This object indicates the value of the FSREGO flag to be used at the next Connect.SMAC event. A write operation to this object will not change the operational value reflected in dtrStationOperRegistrationOption until the next Connect.SMAC event."

::= { dtrStationEntry 12 }

dtrStationAdminRejectRemoveOption OBJECT-TYPE

SYNTAX INTEGER{ removes(1), rejects(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object specifies how the station responds to a REMOVE MAC frame. If set to removes(1), then the SMAC deinserts upon receiving a REMOVE MAC frame. If set to rejects(2), then the SMAC rejects the REMOVE MAC frame and transmits a Response MAC frame indicating function disabled. This object indicates the value of the FSRRO flag to be used at the next Connect.SMAC event. A write operation to this object will not change the operational value reflected in dtrStationOperRejectRemoveOption until the next Connect.SMAC event. "

::= { dtrStationEntry 13 }

dtrStationAdminMediumRateOption OBJECT-TYPE

SYNTAX INTEGER{
rate4Mbps(1),
rate16Mbps(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The value of this object specifies the medium rate as either 4 Mbps or 16 Mbps. If set to rate4Mbps(1), then SMAC

operates the medium at 4 Mbit/s. If set to rate16Mbps(2), then SMAC operates the medium at 16 Mbit/s. This object indicates the value of the FSMR0 flag to be used at the next Connect.SMAC event. A write operation to this object will not change the operational value reflected in dtrStationOperMediumRateOption until the next Connect.SMAC event."

::= { dtrStationEntry 14 }

dtrStationAdminRegistrationQueryOption OBJECT-TYPE

SYNTAX INTEGER{ support(1), ignore(2) }
MAX-ACCESS read-write
STATUS current

DESCRIPTION

"The value of this object indicates if the registration query protocol is supported by MAC when using the TKP Access Protocol. If set to support(1), then MAC recognizes the Registration Query MAC frame. If set to ignore(2), then MAC ignores the Registration Query MAC frame. This object indicates the value of FSRQ0 flag to be used at the next Connect.SMAC event. A write operation to this object will not change the operational value reflected in dtrStationOperRegistrationQueryOption until the next Connect.SMAC event."

::= { dtrStationEntry 15 }

dtrStationAdminRegistrationDeniedOption OBJECT-TYPE

SYNTAX INTEGER{
tkpJoin(1),
close(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The value of this object specifies how the Station acts upon receiving a denied registration request. If set to tkpJoin(1), then SMAC attempts to Join using the TKP Access Protocol. If set to close(2), then the SMAC closes. This object indicates the value of FSRD0 flag to be used at the next Connect.SMAC event. A write operation to this object will not change the operational value reflected in dtrStationOperRegistrationDeniedOption until the next Connect.SMAC event."

::= { dtrStationEntry 16 }

dtrStationOperErrorCountingOption OBJECT-TYPE

SYNTAX INTEGER {
triggered(1),
freeRunning(2)}

MAX-ACCESS read-only
 STATUS current

DESCRIPTION

"This object specifies how the MAC manages the error report timer. If set to triggered(1), the MAC resets TSER when the first error is received and, when TSER expires, transmits a Report Error MAC frame. If set to freeRunning(2), each time TSER expires the MAC resets TSER and, if any of the error counters are not zero, transmits the Report Error MAC frame. This object is used to set the value of the FSECO flag at which the station is currently operating. "

::= { dtrStationEntry 17 }

dtrStationOperOpenOption OBJECT-TYPE

SYNTAX INTEGER{
 exitToClause4(1),
 enterBypass(2) }

MAX-ACCESS read-only
 STATUS current

DESCRIPTION

" This object specifies the action of the station when a response is not received during the Registration process. If set to exitToClause4(1), then SMAC attempts to use the TKP Access Protocol and exits to clause 4. If set to enterBypass(2), then SMAC enters Bypass. This object indicates the value of the FSOP0 flag at which the station is currently operating."

::= { dtrStationEntry 18 }

dtrStationOperRegistrationOption OBJECT-TYPE

SYNTAX INTEGER{
 noRegistration (1),
 dtrRegistration(2) }

MAX-ACCESS read-only
 STATUS current

DESCRIPTION

" This object specifies if the station or C-Port in Station Emulation mode registers with the C-Port to request the use of an access protocol and a method of phantom drive and wire fault detection. If the value is noRegistration(1), then the station does not register and uses the Join FSM defined in clause 4. If the value is dtrRegistration(2), then the station uses the registration process by using the Join FSM defined in clause 9.2. This object indicates the value of the FSOP0 flag at which the station is currently operating. "

::= { dtrStationEntry 19 }

dtrStationOperRejectRemoveOption OBJECT-TYPE

SYNTAX INTEGER{ removes(1), rejects(2) }
MAX-ACCESS read-only
STATUS current

DESCRIPTION

"This object specifies how the station responds to a REMOVE frame. If set to removes(1), then the SMAC deinserts upon receiving a REMOVE MAC frame. If set to rejects(2), then the SMAC rejects the REMOVE MAC frame and transmits a Response MAC frame indicating function disabled. This object indicates the value of the FSRRO flag at which the station is currently operating. "

::= { dtrStationEntry 20 }

dtrStationOperMediumRateOption OBJECT-TYPE

SYNTAX INTEGER{
rate4Mbps(1),
rate16Mbps(2) }
MAX-ACCESS read-only
STATUS current

DESCRIPTION

"The value of this object specifies the medium rate as either 4 Mbps or 16 Mbps. If set to rate4Mbps(1), then SMAC operates the medium at 4 Mbit/s. If set to rate16Mbps(2), then SMAC operates the medium at 16 Mbit/s. This object indicates the value of the FSMRO flag at which the station is currently operating. "

::= { dtrStationEntry 21 }

dtrStationOperRegistrationQueryOption OBJECT-TYPE

SYNTAX INTEGER{ support(1), ignore(2) }
MAX-ACCESS read-only
STATUS current

DESCRIPTION

"The value of this object indicates if the registration query protocol is supported by MAC when using the TKP Access Protocol. If set to support(1), then MAC recognizes the Registration Query MAC frame. If set to ignore(2), then MAC ignores the Registration Query MAC frame. This object indicates the value of FSRQO flag at which the station is currently operating. "

::= { dtrStationEntry 22 }

dtrStationOperRegistrationDeniedOption OBJECT-TYPE

SYNTAX INTEGER{
tkpJoin(1),
close(2) }
MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The value of this object specifies how the Station acts upon receiving a denied registration request. If set to tkpJoin(1), then SMAC attempts to Join using the TKP Access Protocol. If set to close(2), then the SMAC closes. This object indicates the value of FSRDO at which the station is currently operating."

::= { dtrStationEntry 23 }

```
-- *****
-- C-Port Protocol Characteristics Table
-- This table contains Protocol information for C-Ports
-- (both TKP and TXI). There is an entry in this table for
-- each C-Port in this managed system.
-- *****
```

dtrCportTable OBJECT-TYPE

SYNTAX SEQUENCE OF DtrCportEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table contains information for C-Port interfaces. There is one entry in this table for each C-Port interface in a managed system."

::= { dtrMacObjects 3 }

dtrCportEntry OBJECT-TYPE

SYNTAX DtrCportEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"A list of characteristics of a C-Port. "

INDEX

{ dtrCportIfIndex }

::= { dtrCportTable 1 }

DtrCportEntry ::= SEQUENCE {

dtrCportIfIndex InterfaceIndex,

dtrCportCurrentAccessProtocol INTEGER,

-- policy variables

dtrCportAccessProtocolMask OCTET STRING,

dtrCportMaxFrameSize INTEGER,

dtrCportPhantomDriveMask OCTET STRING,

-- policy flags

dtrCportAdminErrorCountingOption INTEGER,

dtrCportAdminMediumRateOption INTEGER,


```

dtrCportAdminOperationOption    INTEGER,
dtrCportAdminRepeatPathOption   INTEGER,
dtrCportAdminAbortSequenceOption INTEGER,
dtrCportAdminBeaconHandlingOption INTEGER,
dtrCportAdminFrameControlOption INTEGER,
dtrCportOperErrorCountingOption INTEGER,
dtrCportOperMediumRateOption    INTEGER,
dtrCportOperOperationOption     INTEGER,
dtrCportOperRepeatPathOption    INTEGER,
dtrCportOperAbortSequenceOption INTEGER,
dtrCportOperBeaconHandlingOption INTEGER,
dtrCportOperFrameControlOption  INTEGER
}

```

dtrCportIfIndex OBJECT-TYPE

SYNTAX InterfaceIndex

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

" This object identifies the interface for which this entry contains management information. The value of this object for a particular interface has the same value as the ifIndex object, defined in [RFC-1573](#), for the same interface. "

::= { dtrCportEntry 1 }

dtrCportCurrentAccessProtocol OBJECT-TYPE

SYNTAX INTEGER { tKP(1), tXI(2) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" This object specifies which access protocol is currently in use by the MAC. The value of this object is either (1) TKP or (2) TXI. This object cannot be set by management. "

::= { dtrCportEntry 2 }

dtrCportAccessProtocolMask OBJECT-TYPE

SYNTAX OCTET STRING(SIZE(2))

MAX-ACCESS read-write

STATUS current

DESCRIPTION

" This object specifies which access protocols can be supported by the PMAC. This object indicates the value of the PPV(AP_MASK) The value of this object is either: X'0001' (TKP), X'0002'(TXI) or X'0003' (TKPAndTXI). "

::= { dtrCportEntry 3 }

dtrCportMaxFrameSize OBJECT-TYPE

SYNTAX INTEGER(133..18200)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object specifies the maximum frame size that a PMAC will transmit and indicates the value of the PPV(MAX_TX) variable. At 4 Mbit/s, the maximum permitted value is 4550. At 16 Mbit/s, the maximum permitted value is 18200. "

::= { dtrCportEntry 4 }

dtrCportPhantomDriveMask OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(2))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The object indicates the value of the C-Port policy variable PPV(PD_MASK). It represents a bit mask of Phantom Drive and Wire Fault detection methods supported by the C-Port."

::= { dtrCportEntry 5 }

dtrCportAdminErrorCountingOption OBJECT-TYPE

SYNTAX INTEGER {
triggered(1),
freeRunning(2)}

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object specifies how the MAC manages the error report timer. If set to triggered(1), the MAC resets TSER when the first error is received and, when TSER expires, transmits the Report Error PMAC frame. If set to freeRunning(2), each time TSER expires the PMAC resets TSER and, if any of the error counters are not zero, transmits the Report Error MAC frame. This object indicates the value of the FPECO flag. A write operation to this object will not change the operational value reflected in dtrCportOperErrorCountingOption until the next Connect.PMAC event. "

::= { dtrCportEntry 6 }

dtrCportAdminMediumRateOption OBJECT-TYPE

SYNTAX INTEGER{
rate4Mbps(1),
rate16Mbps(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The value of this object specifies the medium rate as

either 4 Mbps or 16 Mbps. If set to rate4Mbps(1), then PMAC operates the medium at 4 Mbit/s. If set to rate16Mbps(2), then PMAC operates the medium at 16 Mbit/s. The SMAC uses this object to set the value of the FPMRO flag to be used at the next Connect.PMAC event. A write operation to this object will not change the operational value reflected in dtrCportOperMediumRateOption until the next Connect.PMAC event."

::= { dtrCportEntry 7 }

dtrCportAdminOperationOption OBJECT-TYPE

SYNTAX INTEGER{
portMode(1),
stationEmulationMode(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

" This object specifies whether the C-Port is in port mode or station emulation mode. If set to portMode(1), then PMAC is operating in the Port Mode. If set to stationEmulationMode(2), then PMAC is operating in the Station Emulation Mode. This object indicates the value of the FPOTO flag to be used at the next Connect.PMAC event. A write operation to this object will not change the operational value reflected in dtrCportOperOperationOption until the next Connect.PMAC event. "

::= { dtrCportEntry 8 }

dtrCportAdminRepeatPathOption OBJECT-TYPE

SYNTAX INTEGER{
repeatsACBits(1),
setsACBits(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"When this object is set to repeatsACBits(1), the C-Port repeat path will not set the A and C bits to 1, when an address is recognized by the C-Port. When set to setsACBits(2), the C-Port repeat path will set the A bit to 1 when a destination address is recognized by the C-Port and the C bit to 1 if the frame is copied. This object indicates the value of the FPACO flag to be used at the next Connect.PMAC event. A write operation to this object will not change the operational value reflected in dtrCportOperRepeatPathOption until the next Connect.PMAC event. "

::= { dtrCportEntry 9 }

dtrCportAdminAbortSequenceOption OBJECT-TYPE

SYNTAX INTEGER{
 abortSequence (1),
 invalidFCS(2)}

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object specifies the method used by the PMAC to control the ending sequence for over length frames when a cut through design is supported . When set to abortSequence(1), an over length frame is ended with an abort sequence. When set to invalidFCS(2), an over length frame is ended with an invalid FCS and by setting the E bit to 1 in the Ending Delimiter field. This object indicates the value of the FPASO flag to be used at the next Connect.PMAC event. A write operation to this object will not change the operational value reflected in dtrCportOperAbortSequenceOption until the next Connect.PMAC event."

::= { dtrCportEntry 10 }

dtrCportAdminBeaconHandlingOption OBJECT-TYPE

SYNTAX INTEGER{
 afterNeighborNotification (1),
 atJoinCompleteStateEntry(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object indicates how a PMAC participates in the beaconing process prior to the C-Port completing the joining process while operating in the TKP Access Protocol. If set to afterNeighborNotification(1), then beacon process operates when Neighbor Notification completes. If set to atJoinCompleteStateEntry(2), then the beacon process operates when PMAC has completed Join. This object indicates the value of the FPBHO flag to be used at the next Connect.PMAC event. A write operation to this object will not change the operational value reflected in dtrCportOperBeaconHandlingOption until the next Connect.PMAC event."

::= { dtrCportEntry 11 }

dtrCportAdminFrameControlOption OBJECT-TYPE

SYNTAX INTEGER{ fr-FC(1), fr(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object indicates the value of the FPFC0 flag, which is

used to control the forwarding of frames to the DTU interface. If set to fr-FC(1), then PMAC causes the received FR_FC event to be indicated to the DTU. If set to fr(2), then PMAC cause the received FR event to be indicated to the DTU. This object specifies the value of the FPFCO flag to be used at the next Connect.PMAC event. A write operation to this object will not change the operational value reflected in dtrCportOperFrameControlOption until the next Connect.PMAC event."

::= { dtrCportEntry 12 }

dtrCportOperErrorCountingOption OBJECT-TYPE

SYNTAX INTEGER {
triggered(1),
freeRunning(2)}

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" This object specifies how the MAC manages the error report timer. This object indicates the value of the FPECO flag. If set to triggered(1), the MAC resets TSER when the first error is received and, when TSER expires, transmits a Report Error MAC frame. If set to fr eeRunning(2), each time TSER expires the MAC resets TSER and, if any of the error counters are not zero, transmits the Report Error MAC frame. This object indicates the value of the FPECO flag at which the C-Port is currently operating. "

::= { dtrCportEntry 13 }

dtrCportOperMediumRateOption OBJECT-TYPE

SYNTAX INTEGER{
rate4Mbps(1),
rate16Mbps(2) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The value of this object specifies the medium rate as either 4 Mbps or 16 Mbps. If set to rate4Mbps(1), then PMAC operates the medium at 4 Mbit/s. If set to rate16Mbps(2), then PMAC operates the medium at 16 Mbit/s. The PMAC uses this object during a MGT ACTION.request(OPEN). This object specifies the value at which the C-Port is currently operating."

::= { dtrCportEntry 14 }

dtrCportOperOperationOption OBJECT-TYPE

SYNTAX INTEGER{
portMode(1),


```

                                stationEmulationMode(2) }
MAX-ACCESS                      read-only
STATUS                          current
DESCRIPTION
    "This object specifies whether the C-Port is in port mode or
    station emulation mode.  If set to portMode(1), then PMAC is
    operating in the Port Mode.  If set to
    stationEmulationMode(2), then PMAC is operating in the
    Station Emulation Mode.  This object indicates the value of
    the FPOTO flag at which the C-Port is currently operating."
 ::= { dtrCportEntry 15 }

```

```

dtrCportOperRepeatPathOption    OBJECT-TYPE
    SYNTAX                      INTEGER{
                                repeatsACBits(1),
                                setsACBits(2) }
    MAX-ACCESS                  read-only
    STATUS                      current
    DESCRIPTION
        "When this object is set to repeatsACBits(1), the C-Port
        repeat path will not set the A and C bits to 1 when an
        address is recognized by by the C-Port.  When set to
        setsACBits(2), the C-Port repeat path will set the A bit to
        1 when a destination address is recognized by the C-Port and
        the C bit to 1 if the frame is copied.  This object
        indicates the value of the FPACO flag at which the C-Port is
        currently operating.  "
 ::= { dtrCportEntry 16 }

```

```

dtrCportOperAbortSequenceOption OBJECT-TYPE
    SYNTAX                      INTEGER{
                                abortSequence(1),
                                invalidFCS(2)}
    MAX-ACCESS                  read-only
    STATUS                      current
    DESCRIPTION
        "This object specifies the method used by the PMAC to
        control the ending sequence for over length frames when a
        frame of unknown length is supported.  When set to
        abortSequence(1), an over length frame is ended with an
        abort sequence.  When set to invalidFCS(2), an over length
        frame is ended with an invalid FCS and by setting the Error
        Detected bit in the Ending Delimiter field.  This object
        indicates the value of the FPASO flag at which the C-Port is
        currently operating."
 ::= { dtrCportEntry 17 }

```

```

dtrCportOperBeaconHandlingOption OBJECT-TYPE

```


SYNTAX INTEGER{
 afterNeighborNotification (1),
 atJoinCompleteStateEntry(2) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object indicates how a PMAC participates in the beaconing process prior to the C-Port completing the joining process while operating in the TKP Access Protocol. If set to afterNeighborNotification(1), then beacon process operates when Neighbor Notification completes. If set to atJoinCompleteStateEntry(2), then the beacon process operates when PMAC has completed Join. This object indicates the value of the FPBHO flag at which the C-Port is currently operating. "

::= { dtrCportEntry 18 }

dtrCportOperFrameControlOption OBJECT-TYPE

SYNTAX INTEGER{ fr-FC(1), fr(2) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object indicates the value of the FPFCO flag which is used to control the forwarding of frames to the DTU interface. If set to fr-FC(1), then PMAC causes the received FR_FC event to be indicated to the DTU. If set to fr(2), then PMAC causes the received FR event to be indicated to the DTU. This object indicates the value of the FPFCO flag at which the C-Port is currently operating. "

::= { dtrCportEntry 19 }

-- *****

-- TXI Statistics

-- This table contains statistics for TXI MACs. There
 -- is one entry in this table for each TXI MAC in
 -- a managed system.

-- *****

txiStatisticsTable OBJECT-TYPE

SYNTAX SEQUENCE OF TxiStatisticsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table contains statistics for each TXI MAC in a managed system. "

::= { dtrMacObjects 4 }

txiStatisticsEntry OBJECT-TYPE
 SYNTAX TxiStatisticsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "A list of statistics"
 INDEX
 { txiStatsIfIndex }
 ::= { txiStatisticsTable 1 }

TxiStatisticsEntry ::= SEQUENCE {
 txiStatsIfIndex InterfaceIndex,
 txiStatsAbortErrorCounter Counter32,
 txiStatsBurstErrorCounter Counter32,
 txiStatsInternalErrorCounter Counter32,
 txiStatsLineErrorCounter Counter32,
 txiStatsFrequencyErrorCounter Counter32,
 txiStatsRcvCongestionErrorCounter Counter32,
 txiStatsOverlengthFrameCounter Counter32,
 txiStatsTimeStamp TimeStamp }

txiStatsIfIndex OBJECT-TYPE
 SYNTAX InterfaceIndex
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 " This object identifies the interface for which this entry
 contains management information. The value of this object
 for a particular interface has the same value as the ifIndex
 object, defined in [RFC-1573](#), for the same interface. "
 ::= { txiStatisticsEntry 1 }

txiStatsAbortErrorCounter OBJECT-TYPE
 SYNTAX Counter32
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This counter is incremented when the PMAC or SMAC
 prematurely ends a transmission by transmitting an abort
 sequence."
 ::= { txiStatisticsEntry 2 }

txiStatsBurstErrorCounter OBJECT-TYPE
 SYNTAX Counter32
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"This counter is incremented when a PMAC or SMAC detects the absence of transitions at the receiver input. The counter is only required to be incremented once during each interval of signal disruption. The counter may be inhibited after a burst5_error has been indicated until an event occurs that indicates the MAC is receiving a valid signal. A MAC may count every burst5_error."

REFERENCE "[Section 5.4.2](#) in ISO/IEC 8802-5:1995"

::= { txiStatisticsEntry 3 }

txiStatsInternalErrorCounter OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This counter is incremented when the MAC recognizes a recoverable internal error. "

::= { txiStatisticsEntry 4 }

txiStatsLineErrorCounter OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" This counter is incremented when a frame with error (FR_WITH_ERR) is received by the station or C-Port."

REFERENCE "[Section 4.3.2](#) in ISO/IEC 8802-5:1995"

::= { txiStatisticsEntry 5 }

txiStatsFrequencyErrorCounter OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This counter is incremented when a frequency error is indicated by the Station or C-Port PHY."

REFERENCE "[Section 5.7.2](#) in ISO/IEC 8802-5:1995"

::= { txiStatisticsEntry 6 }

txiStatsRcvCongestionErrorCounter OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This counter is incremented when a frame addressed to the MAC is not copied."

::= { txiStatisticsEntry 7 }


```
txiStatsOverlengthFrameCounter  OBJECT-TYPE
    SYNTAX          Counter32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This counter is incremented when the PMAC prematurely ends
        a transmission due to an overlength frame.  The value of
        this counter is 0 for SMACs."
 ::= { txiStatisticsEntry 8 }
```

```
txiStatsTimeStamp  OBJECT-TYPE
    SYNTAX          TimeStamp
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object indicates the time of the last discontinuity.
        Counters have defined initial value, and thus, a single
        value of a counter has no information content.
        Discontinuities on the monotonically increasing value can
        occur at re-initialization and possibly at other times.
        This time-stamp indicates to a management station that some
        discontinuity in counting has occurred."
 ::= { txiStatisticsEntry 9 }
```

-- Traps

```
dtrMacNonOperational  NOTIFICATION-TYPE
    OBJECTS
        {
            txiProtocolEventStatus,
            txiProtocolBeaconSA,
            txiProtocolBeaconType,
            txiProtocolBeaconUNA,
            txiProtocolBeaconPDN }

    STATUS    current
    DESCRIPTION
        "This notification indicates the station or C-Port is in a
        non operational state.  If the eventStatus is heartBeatLost
        or signalLoss, the value in the beacon objects represent
        those of the last transmitted Beacon MAC frame.  If the
        eventStatus is beaconReceived, the values in the Beacon
        objects represent those contained in the last received
        Beacon MAC frame."
 ::= { dtrMacTraps 1 }
```

```
dtrMacFailure          NOTIFICATION-TYPE
    OBJECTS {txiProtocolEventStatus }
    STATUS    current
```


DESCRIPTION

"This notification indicates that a fault has occurred, causing the station to return to the Bypass state. This trap is sent if eventStatus is remove, internalError,, stationorCPortError, or wireFault."

::= { dtrMacTraps 2}

dtrMacProtocolFailure NOTIFICATION-TYPE

OBJECTS {txiProtocolEventStatus }

STATUS current

DESCRIPTION

"This notification indicates the PMAC or SMAC using the TXI access protocol detected a MAC frame that is only used by the TKP Access Protocol."

::= { dtrMacTraps 3}

-- Conformance Statement

-- *****

-- Conformance information

-- *****

dtrMacCompliances OBJECT IDENTIFIER ::= { dtrMacConformance 1 }

dtrMacGroups OBJECT IDENTIFIER ::= { dtrMacConformance 2 }

-- Compliance statements

dtrMacCompliance MODULE-COMPLIANCE

STATUS current

DESCRIPTION

"The compliance statement for the SNMPv2 entities which implement the dtrMacMIB."

MODULE -- this module

GROUP txiProtocolGroup

DESCRIPTION

"The txiProtocolGroup is mandatory for those DTR MAC entities which implement the TXI protocol."

GROUP dtrStationGroup

DESCRIPTION

"The dtrStationGroup is optional."

GROUP dtrCportGroup

DESCRIPTION

"The dtrCportGroup is optional."

GROUP dtrMacNotificationsGroup

DESCRIPTION

"The dtrMacNotificationGroup is optional."

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

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

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

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

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

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

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

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

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

OBJECT dtrStationAdminRegistrationQueryOption
MIN-ACCESS read-only
DESCRIPTION

"Write access is not required."

OBJECT dtrStationAdminRegistrationDeniedOption

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required."

OBJECT dtrCportAccessProtocolMask

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required."

OBJECT dtrCportMaxFrameSize

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required."

OBJECT dtrCportAdminErrorCountingOption

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required."

OBJECT dtrCportAdminOperationOption

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required."

OBJECT dtrCportAdminRepeatPathOption

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required."

OBJECT dtrCportAdminAbortSequenceOption

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required."

OBJECT dtrCportAdminBeaconHandlingOption

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required."

OBJECT dtrCportAdminFrameControlOption

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required."

::= {dtrMacCompliances 1}

-- Group definitions

```
txiProtocolGroup          OBJECT-GROUP
    OBJECTS {
        txiProtocolMacType,
        txiProtocolFunctionalAddress,
        txiProtocolUpstreamNeighborAddress,
        txiProtocolMicrocodeLevel,
        txiProtocolProductInstanceId,
        txiProtocolAuthorizedFunctionClasses,
        txiProtocolErrorReportTimer,
        txiProtocolPhysicalDropNumber,
        txiProtocolRingNumber,
        txiProtocolRingStatus,
        txiProtocolJoinState,
        txiProtocolMonitorState,
        txiProtocolBeaconSA,
        txiProtocolBeaconType,
        txiProtocolBeaconPDN,
        txiProtocolBeaconUNA,
        txiProtocolEventStatus}
    STATUS current
    DESCRIPTION
        "A collection of objects providing information for IEEE
        802.5 TXI interface."
    ::= { dtrMacGroups 1}
```

```
dtrCportGroup            OBJECT-GROUP
    OBJECTS {
        dtrCportCurrentAccessProtocol,
        dtrCportAccessProtocolMask,
        dtrCportMaxFrameSize,
        dtrCportPhantomDriveMask,
        dtrCportAdminErrorCountingOption,
        dtrCportAdminMediumRateOption,
        dtrCportAdminOperationOption,
        dtrCportAdminRepeatPathOption,
        dtrCportAdminAbortSequenceOption,
        dtrCportAdminBeaconHandlingOption,
        dtrCportAdminFrameControlOption,
        dtrCportOperErrorCountingOption,
        dtrCportOperMediumRateOption,
        dtrCportOperOperationOption,
        dtrCportOperRepeatPathOption,
        dtrCportOperAbortSequenceOption,
        dtrCportOperBeaconHandlingOption,
        dtrCportOperFrameControlOption }
    STATUS current
    DESCRIPTION
```


"A collection of objects providing protocol characteristics
of for a DTR C-Port."

::= { dtrMacGroups 2 }

dtrStationGroup OBJECT-GROUP

OBJECTS {

 dtrStationStationType,
 dtrStationCurrentAccessProtocol,
 dtrStationRequestedAccessProtocol,
 dtrStationAccessProtocolResponse,
 dtrStationAccessProtocolMask,
 dtrStationIndividualAddressCount,
 dtrStationMaxFrameSize,
 dtrStationPhantomDriveSupport,
 dtrStationAdminErrorCountingOption,
 dtrStationAdminOpenOption,
 dtrStationAdminRegistrationOption,
 dtrStationAdminRejectRemoveOption,
 dtrStationAdminMediumRateOption,
 dtrStationAdminRegistrationQueryOption,
 dtrStationAdminRegistrationDeniedOption,
 dtrStationOperErrorCountingOption,
 dtrStationOperOpenOption,
 dtrStationOperRegistrationOption,
 dtrStationOperRejectRemoveOption,
 dtrStationOperMediumRateOption,
 dtrStationOperRegistrationQueryOption,
 dtrStationOperRegistrationDeniedOption }

STATUS current

DESCRIPTION

"A collection of objects providing protocol characteristics
of a DTR station."

::= { dtrMacGroups 3 }

txiStatisticsGroup OBJECT-GROUP

OBJECTS {

 txiStatsAbortErrorCounter,
 txiStatsBurstErrorCounter,
 txiStatsInternalErrorCounter,
 txiStatsLineErrorCounter,
 txiStatsFrequencyErrorCounter,
 txiStatsRcvCongestionErrorCounter,
 txiStatsOverlengthFrameCounter,
 txiStatsTimeStamp }

STATUS current

DESCRIPTION

"A collection of objects providing statistics for 802.5 TXI
interfaces."


```
::= { dtrMacGroups 4 }
```

```
dtrMacNotificationGroup NOTIFICATION-GROUP
```

```
  NOTIFICATIONS {
```

```
    dtrMacNonOperational,
```

```
    dtrMacFailure,
```

```
    dtrMacProtocolFailure }
```

```
  STATUS current
```

```
  DESCRIPTION
```

```
    "DTR MAC Notifications."
```

```
::= {dtrMacGroups 5 }
```

```
END
```

