

**Definitions of Managed Objects for VDSL Lines**  
**draft-ietf-adslmib-vdsl-00.txt**

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Expires June 1, 2002

[Page 1]

## Table of Contents

<a href="#">1.</a>	Abstract .....	<a href="#">2</a>
<a href="#">2.</a>	The SNMP Network Management Framework .....	<a href="#">2</a>
<a href="#">3.</a>	Introduction .....	<a href="#">3</a>
<a href="#">3.1</a>	IANA Considerations .....	<a href="#">3</a>
<a href="#">3.2</a>	Relationship of the VDSL Line MIB to other MIBs .....	<a href="#">4</a>
<a href="#">4.</a>	Conventions used in the MIB .....	<a href="#">5</a>
<a href="#">4.1</a>	Naming Conventions .....	<a href="#">5</a>
<a href="#">4.2</a>	Textual Conventions .....	<a href="#">5</a>
<a href="#">4.3</a>	Structure .....	<a href="#">6</a>
<a href="#">4.4</a>	Counters, Interval Buckets and Thresholds .....	<a href="#">7</a>
<a href="#">4.5</a>	Profiles .....	<a href="#">8</a>
<a href="#">4.6</a>	Notifications .....	<a href="#">9</a>
<a href="#">5.</a>	Conformance and Compliance .....	<a href="#">10</a>
<a href="#">6.</a>	Definitions .....	<a href="#">10</a>
<a href="#">7.</a>	Security Considerations .....	<a href="#">48</a>
<a href="#">8.</a>	Acknowledgments .....	<a href="#">49</a>
<a href="#">9.</a>	References .....	<a href="#">49</a>
<a href="#">10.</a>	Intellectual Property Notice .....	<a href="#">51</a>
<a href="#">11.</a>	Authors' Addresses .....	<a href="#">51</a>
<a href="#">12.</a>	Full Copyright Statement .....	<a href="#">51</a>

## [1.](#) Abstract

This document defines a portion of the Management Information Base (MIB) module for use with network management protocols in the Internet community. In particular, it describes objects used for managing Very high speed Digital Subscriber Line (VDSL) interfaces [[18](#), [19](#), [20](#)].

This document specifies a MIB module in a manner that is compliant to the SMIV2 (STD 58 [[5](#), [6](#), [7](#)]).

## [2.](#) The SNMP Management Framework

The SNMP Management Framework presently consists of five major components:

- o An overall architecture, described in [RFC 2571](#) [[1](#)].
- o Mechanisms for describing and naming objects and events for the purpose of management. The first version of this Structure of Management Information (SMI) is called SMIV1 and described in STD 16, [RFC 1155](#) [[2](#)], STD 16, [RFC 1212](#) [[3](#)] and [RFC 1215](#) [[4](#)]. The second version, called SMIV2, is described in STD 58, [RFC 2578](#) [[5](#)], STD 58, [RFC 2579](#) [[6](#)] and STD 58, [RFC 2580](#) [[7](#)].
- o Message protocols for transferring management information. The first version of the SNMP message protocol is called SNMPv1 and

described in STD 15, [RFC 1157](#) [8]. A second version of the SNMP message protocol, which is not an Internet standards track

Expires June 1, 2002

[Page 2]

protocol, is called SNMPv2c and described in [RFC 1901](#) [9] and [RFC 1906](#) [10]. The third version of the message protocol is called SNMPv3 and described in [RFC 1906](#) [10], [RFC 2572](#) [11] and [RFC 2574](#) [12].

- o Protocol operations for accessing management information. The first set of protocol operations and associated PDU formats is described in STD 15, [RFC 1157](#) [8]. A second set of protocol operations and associated PDU formats is described in [RFC 1905](#) [13].
- o A set of fundamental applications described in [RFC 2573](#) [14] and the view-based access control mechanism described in [RFC 2575](#) [15].

A more detailed introduction to the current SNMP Management Framework can be found in [RFC 2570](#) [16].

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the mechanisms defined in the SMI.

This memo specifies a MIB module that is compliant to the SMIV2. A MIB conforming to the SMIV1 can be produced through the appropriate translations. The resulting translated MIB must be semantically equivalent, except where objects or events are omitted because no translation is possible (use of Counter64). Some machine readable information in SMIV2 will be converted into textual descriptions in SMIV1 during the translation process. However, this loss of machine readable information is not considered to change the semantics of the MIB.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC 2119](#) [17].

### **3. Introduction**

This document describes an SNMP MIB for managing VDSL Lines. These definitions are based upon the specifications for VDSL as defined in [18, 19, 20].

The MIB is located in the MIB tree under MIB 2 transmission, as discussed in the MIB-2 Integration ([RFC 2863](#) [23]) section of this document.

#### **3.1 IANA Considerations**

The SNMPv2-TM MIB module requires the allocation of a single object identifier for its MODULE-IDENTITY. IANA should allocate this object

identifier in the snmpModules subtree, defined in the SNMPv2-SMI MIB module.

Expires June 1, 2002

[Page 3]

### **3.2. Relationship of the VDSL Line MIB to other MIBs**

This section outlines the relationship of this MIB with other MIBs described in RFCs. Specifically, IF-MIB as presented [RFC 2863](#) [[23](#)] is discussed.

#### **3.2.1 General IF-MIB Integration ([RFC 2863](#))**

The VDSL Line MIB specifies the detailed attributes of a data interface. As such, it needs to integrate with [RFC 2863](#) [[23](#)]. The IANA has assigned the following ifType to VDSL:

```
IANAifType ::= TEXTUAL-CONVENTION
    ...
SYNTAX INTEGER {
    ...
    vdsl(97), -- Very H-speed Digital Subscrib. Loop
    ...
}
```

#### **3.2.2 Usage of ifTable**

The MIB branch identified by this ifType contains tables appropriate for this interface type. Most such tables extend the ifEntry table, and are indexed by ifIndex. For interfaces in systems implementing this MIB, those table entries indexed by ifIndex MUST be persistent.

The following attributes are part of the mandatory ifGeneral group in [RFC 2863](#) [[23](#)], and are not duplicated in the VDSL Line MIB.

=====	
ifIndex	Interface index.
ifDescr	See interfaces MIB [ <a href="#">21</a> ].
ifType	vdsl(97)
ifSpeed	Set as appropriate.
ifPhysAddress	This object MUST have an octet string with zero length.
ifAdminStatus	See interfaces MIB [ <a href="#">21</a> ].
ifOperStatus	See interfaces MIB [ <a href="#">21</a> ].
ifLastChange	See interfaces MIB [ <a href="#">21</a> ].
ifName	See interfaces MIB [ <a href="#">21</a> ].

ifLinkUpDownTrapEnable    Default to enabled(1).

Expires June 1, 2002

[Page 4]



ifHighSpeed                      Set as appropriate.

ifConnectorPresent              Set as appropriate.

=====

Figure 1: Use of ifTable Objects

#### **4. Conventions used in the MIB**

##### **4.1. Naming Conventions**

- A. Vtuc -- (VTUC) modem at near (Central) end of line
- B. Vtur -- (VTUR) modem at Remote end of line
- C. Vtu -- One of either Vtuc or Vtur
- D. Curr -- Current
- E. Prev -- Previous
- F. Atn -- Attenuation
- G. ES -- Errored Second.
- H. LCS -- Line Code Specific
- I. Lof -- Loss of Frame
- J. Lol -- Loss of Link
- K. Los -- Loss of Signal
- L. Lpr -- Loss of Power
- M. xxxs -- interval of Seconds in which xxx occurs  
(e.g., xxx=Lof, Los, Lpr)
- N. Max -- Maximum
- O. Mgn -- Margin
- P. Min -- Minimum
- Q. Psd -- Power Spectral Density
- R. Snr -- Signal to Noise Ratio
- S. Tx -- Transmit
- T. Blks -- Blocks, a data unit, see vdslVtuXChanCrcBlockLength

##### **4.2. Textual Conventions**

The following textual conventions are defined to reflect the line topology in the MIB (further discussed in the following section) and to define the behavior of the statistics to be maintained by an agent.

o    VdslLineCodingType :

Attributes with this syntax identify the line coding used.  
Specified as an INTEGER, the three values are:

- other(1) -- none of the following
- mcm(2) -- Multiple Carrier Modulation
- scm(3) -- Single Carrier Modulation

o    VdslLineEntity :

Attributes with this syntax reference the two sides of a line.

Expires June 1, 2002

[Page 5]

Specified as an INTEGER, the two values are:

vtuc(1) -- central site modem  
vtur(2) -- remote site modem

#### **4.3. Structure**

The MIB is structured into following MIB groups:

o vdslGroup :

This group supports all line code independent MIB objects found in this MIB. It contains the following tables:

- vdslLineTable
- vdslPhysTable
- vdslChanTable
- vdslPerfDataTable
- vdslPerfIntervalTable
- vdslChanPerfDataTable
- vdslChanPerfIntervalTable
- vdslLineConfProfileTable
- vdslLineAlarmConfProfileTable

o vdslMCMGroup :

This group supports MIB objects for defining configuration profiles for Multiple Carrier Modulation (MCM) VDSL modems. It contains the following tables:

- vdslLineMCMConfProfileTable
- vdslLineMCMConfProfileTable
- vdslLineMCMConfProfileTxBandTable
- vdslLineMCMConfProfileRxBandTable
- vdslLineMCMConfProfileTxPSDTable
- vdslLineMCMConfProfileMaxTxPSDTable
- vdslLineMCMConfProfileMaxRxPSDTable

Objects in this group MUST be implemented for MCM VDSL lines.

o vdslSCMGroup :

This group supports MIB objects for defining configuration profiles for Single Carrier Modulation (SCM) VDSL modems. It contains the following tables:

- vdslLineSCMConfProfileTable

Objects in this group MUST be implemented for SCM VDSL lines.

#### [4.3.1](#) **Line Topology**

Expires June 1, 2002

[Page 6]

A VDSL Line consists of a two units - Vtuc (the central termination unit) and a Vtur (the remote termination unit).

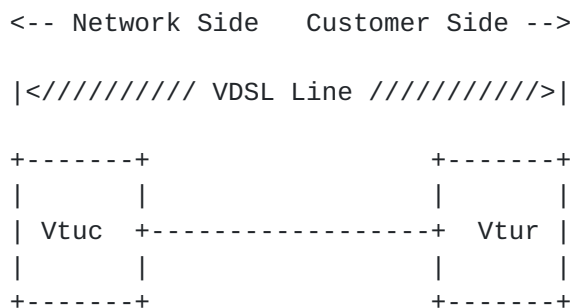


Figure 2: General topology for a VDSL Line

#### 4.4. Counters, Interval Buckets and Thresholds

For Loss of Frame (lof), Loss of Link (lol), Loss of Signal (los), and Loss of Power (lpr), there are event counters, current 15-minute and 0 to 96 15-minute history bucket(s) of "interval-counters". Each current 15-minute event bucket has an associated threshold notification.

Each of these counters uses the textual conventions defined in the HC-PerfHist-TC-MIB. The HC-PerfHist-TC-MIB is a work-in-progress, but simply defines 64-bit versions of the textual conventions found in [RFC 2493](#) [21].

Unlike [RFC 2493](#) [21] and [RFC 2662](#) [22], there is no representation in the MIB for invalid buckets. In those cases where the data for an interval is suspect or known to be invalid, the agent MUST NOT report the interval. If the current 15-minute event bucket is determined to be invalid, notifications based upon the value of the event bucket MUST NOT be generated.

Not reporting an interval will result in holes in the associated table. For example, the table, `vdslPerfIntervalTable`, is indexed by { `ifIndex`, `vdslPhysSide`, `vdslIntervalNumber` }. If interval 12 is determined to be invalid but intervals 11 and 13 are valid, a Get Next operation on the indices `.1.1.11` would return indices `.1.1.13`.

There is no requirement for an agent to ensure a fixed relationship between the start of a fifteen minute and any wall clock; however some implementations may align the fifteen minute intervals with quarter hours. Likewise, an implementation may choose to align one day intervals with the start of a day.

Counters are not reset when an Vtu is reinitialized, only when the agent is reset or reinitialized (or under specific request outside

the scope of this MIB).

Expires June 1, 2002

[Page 7]

#### **4.5. Profiles**

As a managed node can handle a large number of Vtus, (e.g., hundreds or perhaps thousands of lines), provisioning every parameter on every Vtu may become burdensome. Moreover, most lines are provisioned identically with the same set of parameters. To simplify the provisioning process, this MIB makes use of profiles. A profile is a set of parameters that can be shared by multiple lines using the same configuration.

The following profiles are used in this MIB:

- o Line Configuration Profiles - Line configuration profiles contain parameters for configuring VDSL lines. They are defined in eight tables:

- vdslLineConfProfileTable
- vdslLineMCMConfProfileTable
- vdslLineMCMConfProfileTxBandTable
- vdslLineMCMConfProfileRxBandTable
- vdslLineMCMConfProfileTxPSDTable
- vdslLineMCMConfProfileMaxTxPSDTable
- vdslLineMCMConfProfileMaxRxPSDTable
- vdslLineSCMConfProfileTable

As noted above, the latter seven tables in the above list are line code specific.

- o Alarm Configuration Profiles - These profiles contain parameters for configuring alarm thresholds for VDSL modems. These profiles are defined in the vdslLineAlarmConfProfileTable.

The index value for this profile is a locally-unique administratively assigned name for the profile having the textual convention 'SnmpAdminString' ([RFC 2571](#) [1]).

One or more lines may be configured to share parameters of a single profile (e.g., vdslLineConfProfile = 'silver') by setting its vdslLineConfProfile objects to the value of this profile. If a change is made to the profile, all lines that refer to it will be reconfigured to the changed parameters. Before a profile can be deleted or taken out of service it must be first unreferenced from all associated lines.

Implementations MUST provide a default profile whose name is 'DEFVAL' for each profile type. The values of the associated parameters will be vendor specific unless otherwise indicated in this document. Before a line's profiles have been set, these profiles will be automatically used by setting vdslLineConfProfile and vdslLineAlarmConfProfile to 'DEFVAL' where appropriate. This

default profile name, 'DEFVAL', is considered reserved in the context of profiles defined in this MIB.

Expires June 1, 2002

[Page 8]



Profiles are created, assigned, and deleted dynamically using the profile name and profile row status in each of the four profile tables.

Profile changes MUST take effect immediately. These changes MAY result in a restart (hard reset or soft restart) of the units on the line.

#### **4.6. Notifications**

The ability to generate the SNMP notifications coldStart/WarmStart (per [21]) which are per agent (e.g., per Digital Subscriber Line Access Multiplexer, or DSLAM, in such a device), and linkUp/linkDown (per [21]) which are per interface (i.e., VDSL line) is required.

For Loss of Frame (lof), Loss of Link (lol), Loss of Signal (los), and Loss of Power (lpr),

A linkDown notification MAY be generated whenever any of lof, lol, los, or lpr event occurs. The corresponding linkUp notification MAY be sent when all link failure conditions are cleared.

The notifications defined in this MIB are for initialization failure and for the threshold crossings associated with the following events: lof, lol, los, and lpr. Each threshold has its own enable/threshold value. When that value is 0, the notification is disabled.

The vdslCurrStatus is a bitmask representing all outstanding error conditions associated with a particular VDSL modem. Note that since status of remote modems is obtained via the EOC, this information may be unavailable for units that are unreachable via EOC during a line error condition. Therefore, not all conditions may always be included in its current status. Notifications corresponding to the bit fields in this object are defined.

A threshold notification occurs whenever the corresponding current 15-minute interval error counter becomes equal to, or exceeds the threshold value. One notification may be sent per interval per interface. Since the current 15-minute counter are reset to 0 every 15 minutes, if the condition persists, the notification may recur as often as every 15 minutes. For example, to get a notification whenever a "loss of" event occurs (but at most once every 15 minutes), set the corresponding threshold to 1. The agent will generate a notification when the event originally occurs.

Note that the Network Management System, or NMS, may receive a linkDown notification, as well, if enabled (via ifLinkUpDownTrapEnable [23]). At the beginning of the next 15 minute interval, the counter is reset. When the first second goes by and the event occurs, the current interval bucket will be 1, which

equals the threshold and the notification will be sent again.

Expires June 1, 2002

[Page 9]

## 5. Conformance and Compliance

For VDSL lines, the following group is mandatory:

- vdslGroup

For MCM VDSL lines, the following group is optional:

- vdslSCMGroup

For SCM VDSL lines, the following group is optional:

- vdslMCMGroup

## 6. Definitions

```
VDSL-LINE-MIB DEFINITIONS ::= BEGIN
```

```
IMPORTS
```

```
MODULE-IDENTITY,  
OBJECT-TYPE,  
Counter64,  
Gauge32,  
NOTIFICATION-TYPE,  
transmission                      FROM SNMPv2-SMI  
TEXTUAL-CONVENTION,  
RowStatus,  
TruthValue                        FROM SNMPv2-TC  
HCPerfCurrentCount,  
HCPerfIntervalCount              FROM HC-PerfHist-TC-MIB  
MODULE-COMPLIANCE,  
OBJECT-GROUP,  
NOTIFICATION-GROUP               FROM SNMPv2-CONF  
ifIndex                           FROM IF-MIB  
SnmpAdminString                  FROM SNMP-FRAMEWORK-MIB;
```

```
vdslMIB MODULE-IDENTITY
```

```
    LAST-UPDATED "200111010000Z" -- November 1, 2001
```

```
    ORGANIZATION "ADSLMIB Working Group"
```

```
    CONTACT-INFO "WG-email:  XDSTMIB@LISTSERV.ECIRALEIGH.COM
```

```
                    Subscribe: LISTSERV@LISTSERV.ECIRALEIGH.COM
```

```
                    In Body: subscribe/signoff XDSTMIB
```

```
                    Archive: index XDSTMIB/get <archivename>
```

```
    Chair:      Mike Sneed
```

```
                ECI Telecom
```

```
    Postal:     1017 Main Campus Drive
```

```
                Raleigh NC 27606 USA
```

```
    Email:      Mike.Sneed@go.ecitele.com
```

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Expires June 1, 2002

[Page 10]

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#### DESCRIPTION

"The MIB module defining objects for the management of a pair of VDSL modems at each end of the VDSL line. Each such line has an entry in an ifTable which may include multiple modem lines. An agent may reside at either end of the VDSL line however the MIB is designed to require no management communication between them beyond that inherent in the low-level VDSL line protocol. The agent may monitor and control this protocol for its needs.

VDSL lines may support optional Fast or Interleaved channels. If these are supported, additional entries corresponding to the supported channels must be created in the ifTable. Thus a VDSL line that supports both channels will have three entries in the ifTable, one for each physical, fast, and interleaved, whose ifType values are equal to vdsl(97), fast(125), and interleaved(124), respectively. The ifStackTable is used to represent the relationship between the entries.

#### Naming Conventions:

Vtuc -- (VTUC) modem at near (Central) end of line  
Vtur -- (VTUR) modem at Remote end of line  
Vtu -- One of either Vtuc or Vtur  
Curr -- Current  
Prev -- Previous  
Atn -- Attenuation  
ES -- Errored Second.  
LCS -- Line Code Specific  
Lof -- Loss of Frame  
Lol -- Loss of Link  
Los -- Loss of Signal  
Lpr -- Loss of Power  
xxxs -- interval of Seconds in which xxx occurs  
(e.g., xxx=Lof, Los, Lpr)  
Max -- Maximum  
Mgn -- Margin  
Min -- Minimum  
Psd -- Power Spectral Density  
Snr -- Signal to Noise Ratio  
Tx -- Transmit  
Blks -- Blocks, a data unit, see vdslVtuXChanCrcBlockLength  
"

REVISION "2001111010000Z" -- November 1, 2001

Expires June 1, 2002

[Page 11]

DESCRIPTION "Initial draft."

::= { transmission xxxx }

vdslLineMib OBJECT IDENTIFIER ::= { vdslMIB 1 }

vdslMibObjects OBJECT IDENTIFIER ::= { vdslLineMib 1 }

--

-- textual conventions used in this MIB

--

VdslLineCodingType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This data type is used as the syntax for the VDSL  
Line Code."

SYNTAX INTEGER

{  
other(1), -- none of the following  
mcm(2), -- Multiple Carrier Modulation  
scm(3) -- Single Carrier Modulation  
}

VdslLineEntity ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Identifies a modem as being either Vtuc or Vtur. A  
VDSL line consists of two modems, a Vtuc and a Vtur."

SYNTAX INTEGER

{  
vtuc(1), -- central site modem  
vtur(2) -- remote site modem  
}

--

-- objects

--

vdslLineTable OBJECT-TYPE

SYNTAX SEQUENCE OF VdslLineEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table includes common attributes describing  
both ends of the line. It is required for all VDSL  
physical interfaces. VDSL physical interfaces are  
those ifEntries where ifType is equal to vdsl(97)."

::= { vdslMibObjects 1 }

vds1LineEntry OBJECT-TYPE

SYNTAX Vds1LineEntry

MAX-ACCESS not-accessible

Expires June 1, 2002

[Page 12]



```

STATUS      current
DESCRIPTION  "An entry in the vdslLineTable."
INDEX       { ifIndex }
 ::= { vdslLineTable 1 }

```

```

VdslLineEntry ::=
SEQUENCE
{
    vdslLineCoding          VdslLineCodingType,
    vdslLineType            INTEGER,
    vdslLineConfProfile     SnmpAdminString,
    vdslLineAlarmConfProfile SnmpAdminString
}

```

```

vdslLineCoding OBJECT-TYPE
SYNTAX      VdslLineCodingType
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Specifies the VDSL coding type used on this line."
REFERENCE   "T1E1.4/2000-009R3" -- Part 1, common spec
 ::= { vdslLineEntry 1 }

```

```

vdslLineType OBJECT-TYPE
SYNTAX      INTEGER
{
    noChannel(1),          -- no channels exist
    fastOnly(2),           -- fast channel only
    slowOnly(3),           -- slow channel only
    either(4),             -- either fast or slow channel exist
    both(5)                -- both fast and slow channels exist
}
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Defines the type of VDSL physical line
    entity that exists, by defining whether and how
    the line is channelized.  If the line is channelized,
    the value will be other than noChannel(1).  This
    object defines which channel type(s) are supported.

    In the case that the line is channelized, the manager
    can use the ifStackTable to determine the ifIndex for
    the associated channel(s)."
REFERENCE   "T1E1.4/2000-009R3" -- Part 1, common spec
 ::= { vdslLineEntry 2 }

```

```

vdslLineConfProfile OBJECT-TYPE
SYNTAX      SnmpAdminString (SIZE (1..32))

```

MAX-ACCESS	read-write
STATUS	current
DESCRIPTION	

Expires June 1, 2002

[Page 13]

```

    "The value of this object identifies the row
    in the VDSL Line Configuration Profile Table,
    ( vdslLineConfProfileTable ), which applies for this
    VDSL line, and channels if applicable."
::= { vdslLineEntry 3 }

```

## vds1LineAlarmConfProfile OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE (1..32))

MAX-ACCESS read-write

STATUS current

## DESCRIPTION

"The value of this object identifies the row in the VDSL Line Alarm Configuration Profile Table, ( vdslLineAlarmConfProfileTable ), which applies to this VDSL line, and channels if applicable."

```
 ::= { vds1LineEntry 4 }
```

## vds1PhysTable OBJECT-TYPE

SYNTAX SEQUENCE OF Vds1PhysEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"This table provides one row for each Vtu. Each row contains the Physical Layer Parameters table for that Vtu. VDSL physical interfaces are those ifEntries where ifType is equal to vdsl(97)."

```
 ::= { vds1MibObjects 2 }
```

## vds1PhysEntry OBJECT-TYPE

**SYNTAX** `Vds1PhysEntry`

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION	"An entry in the vds1PhysTable."
-------------	----------------------------------

```
INDEX      { ifIndex, vds1PhysSide }
```

```
 ::= { vds1PhysTable 1 }
```

```
Vds1PhysEntry ::=
```

## SEQUENCE

```
{
vdslPhysSide                                VdslLineEntity,
vdslInvSerialNumber                         SnmpAdminString,
vdslInvVendorID                            SnmpAdminString,
vdslInvVersionNumber                       SnmpAdminString,
vdslCurrSnrMgn                             INTEGER,
vdslCurrAtn                                Gauge32,
vdslCurrStatus                             BITS,
vdslCurrOutputPwr                          INTEGER,
vdslCurrAttainableRate                     Gauge32
}
```

vdslPhysSide OBJECT-TYPE

SYNTAX VdslLineEntity

Expires June 1, 2002

[Page 14]

MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Identifies whether the modem is the Vtuc or Vtur."  
 ::= { vdslPhysEntry 1 }

vdslInvSerialNumber OBJECT-TYPE

SYNTAX SnmpAdminString(SIZE (0..32))  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The vendor specific string that identifies the  
    vendor equipment."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslPhysEntry 2 }

vdslInvVendorID OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE (0..16))  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The vendor ID code is a copy of the binary vendor  
    identification field defined by the PHY[10] and  
    expressed as readable characters."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslPhysEntry 3 }

vdslInvVersionNumber OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE (0..16))  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The vendor specific version number sent by this Vtu  
    as part of the initialization messages. It is a copy  
    of the binary version number field defined by the  
    PHY[10] and expressed as readable characters."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslPhysEntry 4 }

vdslCurrSnrMgn OBJECT-TYPE

SYNTAX INTEGER(-640..640)  
UNITS "tenth dB"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Noise Margin as seen by this Vtu with respect to its  
    received signal in tenth dB."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslPhysEntry 5 }

vds1CurrAtn OBJECT-TYPE

SYNTAX Gauge32(0..630)

Expires June 1, 2002

[Page 15]

UNITS "tenth dB"  
 MAX-ACCESS read-only  
 STATUS current  
 DESCRIPTION  
   "Measured difference in the total power transmitted by  
   the peer Vtu and the total power received by this Vtu."  
 REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslPhysEntry 6 }

#### vdslCurrStatus OBJECT-TYPE

SYNTAX BITS  
 {  
   noDefect(0),  
   lossOfFraming(1),  
   lossOfSignal(2),  
   lossOfPower(3),  
   lossOfSignalQuality(4),  
   lossOfLink(5),  
   dataInitFailure(6),  
   configInitFailure(7),  
   protocolInitFailure(8),  
   noPeerVtuPresent(9)  
 }

MAX-ACCESS read-only

STATUS current

#### DESCRIPTION

"Indicates current state of the Vtu line. This is a  
 bit-map of possible conditions. The various bit  
 positions are:

0	noDefect	There no defects on the line
1	lossOfFraming	Vtu failure due to not receiving valid frame.
2	lossOfSignal	Vtu failure due to not receiving signal.
3	lossOfPower	Vtu failure due to loss of power.
4	lossOfSignalQuality	Loss of Signal Quality is declared when the Noise Margin falls below the Minimum Noise Margin, or the bit-error-rate exceeds $10^{-7}$ .
5	lossOfLink	Vtu failure due to inability to link with peer Vtu.
6	dataInitFailure	Vtu failure during initialization

due to bit errors corrupting  
startup exchange data.

Expires June 1, 2002

[Page 16]



- |   |                     |  |
|---|---------------------|--|
| 7 | configInitFailure   | Vtu failure during initialization due to peer Vtu not able to support requested configuration. |
| 8 | protocolInitFailure | Vtu failure during initialization due to incompatible protocol used by the peer Vtu.           |
| 9 | noPeerVtuPresent    | Vtu failure during initialization due to no activation sequence detected from peer Vtu.        |

This is intended to supplement ifOperStatus."

REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPhysEntry 7 }

vdslCurrOutputPwr OBJECT-TYPE

SYNTAX INTEGER (-310..310)

UNITS "tenth dBm"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Measured total output power transmitted by this ATU.  
This is the measurement that was reported during  
the last activation sequence."

REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPhysEntry 8 }

vdslCurrAttainableRate OBJECT-TYPE

SYNTAX Gauge32

UNITS "bps"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates the maximum currently attainable data rate  
by the Vtu. This value will be equal or greater than  
the current line rate."

REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPhysEntry 9 }

vdslChanTable OBJECT-TYPE

SYNTAX SEQUENCE OF VdslChanEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table provides one row for each Vtu channel.  
VDSL channel interfaces are those ifEntries where  
ifType is equal to interleave(124) or fast(125)."

::= { vdslMibObjects 3 }

vdslChanEntry OBJECT-TYPE

SYNTAX VdslChanEntry

Expires June 1, 2002

[Page 17]

```

MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
    "An entry in the vdslChanTable."
INDEX         { ifIndex, vdslPhysSide }
 ::= { vdslChanTable 1 }

```

```
VdslChanEntry ::=
```

```

SEQUENCE
    {
        vdslChanInterleaveDelay          Gauge32,
        vdslChanCrcBlockLength           Gauge32
    }

```

```
vdslChanInterleaveDelay OBJECT-TYPE
```

```

SYNTAX        Gauge32
UNITS         "milli-seconds"
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "Interleave Delay for this channel.

```

Interleave delay applies only to the interleave (slow) channel and defines the mapping (relative spacing) between subsequent input bytes at the interleaver input and their placement in the bit stream at the interleaver output. Larger numbers provide greater separation between consecutive input bytes in the output bit stream allowing for improved impulse noise immunity at the expense of payload latency.

In the case where the ifType is fast(125), use noSuchObject."

```

REFERENCE     "T1E1.4/2000-009R3"    -- Part 1, common spec
 ::= { vdslChanEntry 1 }

```

```
vdslChanCrcBlockLength OBJECT-TYPE
```

```

SYNTAX        Gauge32
UNITS         "byte"
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION

```

"Indicates the length of the channel data-block on which the CRC operates."

```

REFERENCE     "T1E1.4/2000-009R3"    -- Part 1, common spec
 ::= { vdslChanEntry 2 }

```

```
vdslPerfDataTable          OBJECT-TYPE
```

SYNTAX	SEQUENCE OF VdslPerfDataEntry
MAX-ACCESS	not-accessible
STATUS	current

Expires June 1, 2002

[Page 18]

## DESCRIPTION

"This table provides one row for each VDSL physical interface. VDSL physical interfaces are those ifEntries where ifType is equal to vdsl(97)."

::= { vdslMibObjects 4 }

## vdslPerfDataEntry OBJECT-TYPE

SYNTAX VdslPerfDataEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"An entry in the vdslPerfDataTable."

INDEX { ifIndex, vdslPhysSide }

::= { vdslPerfDataTable 1 }

## VdslPerfDataEntry ::=

## SEQUENCE

{	
vdslPerfValidIntervals	INTEGER,
vdslPerfInvalidIntervals	INTEGER,
vdslPerfLofs	Counter64,
vdslPerfLoss	Counter64,
vdslPerfLprs	Counter64,
vdslPerfESS	Counter64,
vdslPerfInits	Counter64,
vdslPerfCurr15MinTimeElapsed	INTEGER,
vdslPerfCurr15MinLofs	HCPperfCurrentCount,
vdslPerfCurr15MinLoss	HCPperfCurrentCount,
vdslPerfCurr15MinLprs	HCPperfCurrentCount,
vdslPerfCurr15MinESS	HCPperfCurrentCount,
vdslPerfCurr15MinInits	HCPperfCurrentCount
}	

## vdslPerfValidIntervals OBJECT-TYPE

SYNTAX INTEGER(0..96)

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"Valid Intervals per xxxValidInterval definition found in HC-PerfHist-TC-MIB."

::= { vdslPerfDataEntry 1 }

## vdslPerfInvalidIntervals OBJECT-TYPE

SYNTAX INTEGER(0..96)

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"Invalid Intervals per xxxInvalidInterval definition found in HC-PerfHist-TC-MIB."

```
::= { vdslPerfDataEntry 2 }
```

```
vdslPerfLofs OBJECT-TYPE
```

Expires June 1, 2002

[Page 19]

SYNTAX Counter64  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Count of seconds since the unit was last reset that there  
    was Loss of Framing."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPerfDataEntry 3 }

## vdslPerfLoss OBJECT-TYPE

SYNTAX Counter64  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Count of seconds since the unit was last reset that there  
    was Loss of Signal."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPerfDataEntry 4 }

## vdslPerfLprs OBJECT-TYPE

SYNTAX Counter64  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Count of seconds since the unit was last reset that there  
    was Loss of Power."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPerfDataEntry 5 }

## vdslPerfESSs OBJECT-TYPE

SYNTAX Counter64  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Count of Errored Seconds since the unit was last reset.  
    An Errored Second is a one-second interval containing one  
    or more crc anomalies, or one or more los defects."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPerfDataEntry 6 }

## vdslPerfInits OBJECT-TYPE

SYNTAX Counter64  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION

"Count of the line initialization attempts since the unit was last reset. This count includes both successful and failed attempts."

Expires June 1, 2002

[Page 20]



REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPerfDataEntry 7 }

vdslPerfCurr15MinTimeElapsed OBJECT-TYPE

SYNTAX INTEGER(0..899)  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Total elapsed seconds in this interval."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPerfDataEntry 8 }

vdslPerfCurr15MinLoFs OBJECT-TYPE

SYNTAX HCPperfCurrentCount  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Count of seconds during this interval that there  
was Loss of Framing."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPerfDataEntry 9 }

vdslPerfCurr15MinLoss OBJECT-TYPE

SYNTAX HCPperfCurrentCount  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Count of seconds during this interval that there  
was Loss of Signal."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPerfDataEntry 10 }

vdslPerfCurr15MinLprs OBJECT-TYPE

SYNTAX HCPperfCurrentCount  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Count of seconds during this interval that there  
was Loss of Power."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslPerfDataEntry 11 }

vdslPerfCurr15MinESs OBJECT-TYPE

SYNTAX HCPperfCurrentCount  
UNITS "seconds"

MAX-ACCESS	read-only
STATUS	current
DESCRIPTION	

Expires June 1, 2002

[Page 21]

"Count of Errored Seconds during this interval. An Errored Second is a one-second interval containing one or more crc anomalies, or one or more los defects."

REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslPerfDataEntry 12 }

vdslPerfCurr15MinInits OBJECT-TYPE

SYNTAX HCPerfCurrentCount

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of the line initialization attempts during this interval. This count includes both successful and failed attempts."

REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslPerfDataEntry 13 }

vdslPerfIntervalTable OBJECT-TYPE

SYNTAX SEQUENCE OF VdslPerfIntervalEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table provides one row for each Vtu performance data collection interval. VDSL physical interfaces are those ifEntries where ifType is equal to vdsl(97)."

::= { vdslMibObjects 5 }

vdslPerfIntervalEntry OBJECT-TYPE

SYNTAX VdslPerfIntervalEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the vdslPerfIntervalTable."

INDEX { ifIndex, vdslPhysSide, vdslIntervalNumber }

::= { vdslPerfIntervalTable 1 }

VdslPerfIntervalEntry ::=

SEQUENCE

{	
vdslIntervalNumber	INTEGER,
vdslIntervalLofs	HCPerfIntervalCount,
vdslIntervalLoss	HCPerfIntervalCount,
vdslIntervalLprs	HCPerfIntervalCount,
vdslIntervalESs	HCPerfIntervalCount,
vdslIntervalInits	HCPerfIntervalCount
}	

vdslIntervalNumber OBJECT-TYPE

SYNTAX INTEGER(1..96)

MAX-ACCESS	not-accessible
STATUS	current
DESCRIPTION	

Expires June 1, 2002

[Page 22]

"Performance Data Interval number 1 is the the most recent previous interval; interval 96 is 24 hours ago. Intervals 2..96 are optional."  
 ::= { vdslPerfIntervalEntry 1 }

vdslIntervalLofs OBJECT-TYPE  
SYNTAX HCPerfIntervalCount  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Count of seconds in the interval when there was Loss of Framing."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslPerfIntervalEntry 2 }

vdslIntervalLoss OBJECT-TYPE  
SYNTAX HCPerfIntervalCount  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Count of seconds in the interval when there was Loss of Signal."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslPerfIntervalEntry 3 }

vdslIntervalLprs OBJECT-TYPE  
SYNTAX HCPerfIntervalCount  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Count of seconds in the interval when there was Loss of Power."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslPerfIntervalEntry 4 }

vdslIntervalESs OBJECT-TYPE  
SYNTAX HCPerfIntervalCount  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Count of Errored Seconds in the interval. An Errored Second is a one-second interval containing one or more crc anomalies, or one or more los defects."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslPerfIntervalEntry 5 }

vdslIntervalInits OBJECT-TYPE  
SYNTAX HCPperfIntervalCount

Expires June 1, 2002

[Page 23]

```

MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "Count of the line initialization attempts during this
    interval.  This count includes both successful and
    failed attempts."
REFERENCE     "T1E1.4/2000-009R3"    -- Part 1, common spec
 ::= { vdslPerfIntervalEntry 6 }

```

```

vdslChanPerfDataTable      OBJECT-TYPE
    SYNTAX      SEQUENCE OF VdslChanPerfDataEntry
    MAX-ACCESS   not-accessible
    STATUS      current
    DESCRIPTION
        "This table provides one row for each Vtu channel.
        VDSL channel interfaces are those ifEntries where
        ifType is equal to interleave(124) or fast(125)."
    ::= { vdslMibObjects 6 }

```

```

vdslChanPerfDataEntry OBJECT-TYPE
    SYNTAX      VdslChanPerfDataEntry
    MAX-ACCESS   not-accessible
    STATUS      current
    DESCRIPTION
        "An entry in the vdslChanPerfDataTable."
    INDEX       { ifIndex, vdslPhysSide }
    ::= { vdslChanPerfDataTable 1 }

```

```

VdslChanPerfDataEntry ::=
    SEQUENCE
        {
            vdslChanPerfValidIntervals      INTEGER,
            vdslChanPerfInvalidIntervals     INTEGER,
            vdslChanCorrectedOctets          Counter64,
            vdslChanUncorrectBlks            Counter64,
            vdslChanPerfCurr15MinTimeElapsed INTEGER,
            vdslChanPerfCurr15MinCorrectedOctets HCPperfCurrentCount,
            vdslChanPerfCurr15MinUncorrectBlks HCPperfCurrentCount
        }

```

```

vdslChanPerfValidIntervals OBJECT-TYPE
    SYNTAX      INTEGER(0..96)
    MAX-ACCESS   read-only
    STATUS      current
    DESCRIPTION
        "Valid Intervals per xxxValidInterval definition
        found in HC-PerfHist-TC-MIB."
    ::= { vdslChanPerfDataEntry 1 }

```

vds1ChanPerfInvalidIntervals OBJECT-TYPE

SYNTAX INTEGER(0..96)

MAX-ACCESS read-only

Expires June 1, 2002

[Page 24]



STATUS current  
DESCRIPTION  
"Invalid Intervals per xxxInvalidInterval definition  
found in HC-PerfHist-TC-MIB."  
::= { vdslChanPerfDataEntry 2 }

vdslChanCorrectedOctets OBJECT-TYPE

SYNTAX Counter64  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Count of corrected octets since the unit was last reset."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslChanPerfDataEntry 3 }

vdslChanUncorrectBlks OBJECT-TYPE

SYNTAX Counter64  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Count of uncorrected blocks since the unit was last reset."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslChanPerfDataEntry 4 }

vdslChanPerfCurr15MinTimeElapsed OBJECT-TYPE

SYNTAX INTEGER(0..899)  
UNITS "seconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Total elapsed seconds in this interval."  
::= { vdslChanPerfDataEntry 5 }

vdslChanPerfCurr15MinCorrectedOctets OBJECT-TYPE

SYNTAX HCPperfCurrentCount  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Count of corrected octets in this interval."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslChanPerfDataEntry 6 }

vdslChanPerfCurr15MinUncorrectBlks OBJECT-TYPE

SYNTAX HCPperfCurrentCount  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Count of uncorrected blocks in this interval."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec

::= { vdslChanPerfDataEntry 7 }

vdslChanIntervalTable            OBJECT-TYPE

Expires June 1, 2002

[Page 25]

SYNTAX SEQUENCE OF VdslChanIntervalEntry  
 MAX-ACCESS not-accessible  
 STATUS current  
 DESCRIPTION  
 "This table provides one row for each Vtu channel data  
 collection interval. VDSL channel interfaces are those  
 ifEntries where ifType is equal to interleave(124) or  
 fast(125)."  
 ::= { vdslMibObjects 7 }

#### vdslChanIntervalEntry OBJECT-TYPE

SYNTAX VdslChanIntervalEntry  
 MAX-ACCESS not-accessible  
 STATUS current  
 DESCRIPTION  
 "An entry in the vdslChanIntervalTable."  
 INDEX { ifIndex, vdslPhysSide, vdslChanIntervalNumber }  
 ::= { vdslChanIntervalTable 1 }

#### VdslChanIntervalEntry ::=

SEQUENCE  
 {  
 vdslChanIntervalNumber INTEGER,  
 vdslChanIntervalCorrectedOctets HCPperfIntervalCount,  
 vdslChanIntervalUncorrectBlks HCPperfIntervalCount  
 }

#### vdslChanIntervalNumber OBJECT-TYPE

SYNTAX INTEGER(1..96)  
 MAX-ACCESS not-accessible  
 STATUS current  
 DESCRIPTION  
 "Performance Data Interval number 1 is the the most  
 recent previous interval; interval 96 is 24 hours ago.  
 Intervals 2..96 are optional."  
 ::= { vdslChanIntervalEntry 1 }

#### vdslChanIntervalCorrectedOctets OBJECT-TYPE

SYNTAX HCPperfIntervalCount  
 MAX-ACCESS read-only  
 STATUS current  
 DESCRIPTION  
 "Count of corrected octets in this interval."  
 REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
 ::= { vdslChanIntervalEntry 2 }

#### vdslChanIntervalUncorrectBlks OBJECT-TYPE

SYNTAX HCPperfIntervalCount  
 MAX-ACCESS read-only

STATUS           current

DESCRIPTION

"Count of uncorrected blocks in this interval."

Expires June 1, 2002

[Page 26]

REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslChanIntervalEntry 3 }

vdslLineConfProfileTable OBJECT-TYPE

SYNTAX SEQUENCE OF VdslLineConfProfileEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table contains information on the VDSL line configuration. One entry in this table reflects a profile defined by a manager which can be used to configure the VDSL line."

::= { vdslMibObjects 8 }

vdslLineConfProfileEntry OBJECT-TYPE

SYNTAX VdslLineConfProfileEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Each entry consists of a list of parameters that represents the configuration of a VDSL modem. A default profile will always exist. This profile's name will be set to 'DEFVAL' and its parameters will be set to vendor specific values, unless otherwise specified in this document."

INDEX { IMPLIED vdslLineConfProfileName,  
vdslPhysSide }

::= { vdslLineConfProfileTable 1 }

VdslLineConfProfileEntry ::=

SEQUENCE

```
{  
    vdslLineConfProfileName          SnmpAdminString,  
    vdslLineConfTargetSnrMgn         INTEGER,  
    vdslLineConfTxSpeed              INTEGER,  
    vdslLineConfRxSpeed              INTEGER,  
    vdslLineConfProfileRowStatus     RowStatus  
}
```

vdslLineConfProfileName OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE (1..32))

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object is used by the line configuration table in order to identify a row in that table. The system will always provide a default profile whose name is 'DEFVAL'."

::= { vdslLineConfProfileEntry 1 }

vdslLineConfTargetSnrMgn OBJECT-TYPE

SYNTAX INTEGER (0..310)

Expires June 1, 2002

[Page 27]

UNITS "tenth dB"  
MAX-ACCESS read-create  
STATUS current  
DESCRIPTION  
"Configured Target Signal/Noise Margin. This is the  
Noise Margin the modem must achieve with a BER of 10<sup>-7</sup>  
or better to successfully complete initialization."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslLineConfProfileEntry 2 }

vdslLineConfTxSpeed OBJECT-TYPE

SYNTAX INTEGER  
UNITS "bits per second"  
MAX-ACCESS read-create  
STATUS current  
DESCRIPTION  
"Transmit speed for this modem. The corresponding modem  
on the other end of the VDSL line will have an equal  
vdslLineConfRxSpeed value."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslLineConfProfileEntry 3 }

vdslLineConfRxSpeed OBJECT-TYPE

SYNTAX INTEGER  
UNITS "bits per second"  
MAX-ACCESS read-create  
STATUS current  
DESCRIPTION  
"Receive speed for this modem. The corresponding modem  
on the other end of the VDSL line will have an equal  
vdslLineConfTxSpeed value."  
REFERENCE "T1E1.4/2000-009R3" -- Part 1, common spec  
::= { vdslLineConfProfileEntry 4 }

vdslLineConfProfileRowStatus OBJECT-TYPE

SYNTAX RowStatus  
MAX-ACCESS read-create  
STATUS current  
DESCRIPTION  
"This object is used to create a new row or modify or  
delete an existing row in this table.  
  
A profile activated by setting this object to `active'.  
When `active' is set, the system will validate the profile.  
  
Before a profile can be deleted or taken out of  
service, (by setting this object to `destroy' or  
`outOfService') it must be first unreferenced  
from all associated lines."

```
::= { vds1LineConfProfileEntry 5 }
```

```
--
```

Expires June 1, 2002

[Page 28]



```
-- Multiple carrier modulation (MCM) configuration profile tables
--
```

**vdslLineMCMConfProfileTable OBJECT-TYPE**

SYNTAX SEQUENCE OF VdslLineMCMConfProfileEntry

MAX-ACCESS not-accessible

STATUS current

**DESCRIPTION**

"This table contains information on the VDSL line configuration. One entry in this table reflects a profile defined by a manager which can be used to configure the VDSL line.

This table MUST be implemented for multiple carrier VDSL lines. This table MUST NOT be implemented for Single carrier VDSL lines."

::= { vdslMibObjects 9 }

**vdslLineMCMConfProfileEntry OBJECT-TYPE**

SYNTAX VdslLineMCMConfProfileEntry

MAX-ACCESS not-accessible

STATUS current

**DESCRIPTION**

"Each entry consists of a list of parameters that represents the configuration of a multiple carrier modulation VDSL modem. A default profile will always exist. This profile's name will be set to 'DEFVAL' and its parameters will be set to vendor specific values, unless otherwise specified in this document."

INDEX { IMPLIED vdslLineConfProfileName,  
vdslPhysSide }

::= { vdslLineMCMConfProfileTable 1 }

**VdslLineMCMConfProfileEntry ::=**

**SEQUENCE**

```
{
    vdslMCMConfProfileTxWindowLength      INTEGER,
    vdslMCMConfProfileRowStatus           RowStatus
}
```

**vdslMCMConfProfileTxWindowLength OBJECT-TYPE**

SYNTAX INTEGER(1..255)

UNITS "samples"

MAX-ACCESS read-create

STATUS current

**DESCRIPTION**

"Specifies the length of the transmit window, counted in samples at the sampling rate corresponding to the negotiated value of N."

REFERENCE "T1E1.4/2000-013R4" -- Part 3, MCM  
::= { vdsLineMCMConfProfileEntry 1 }

Expires June 1, 2002

[Page 29]

**vdsLMCMConfProfileRowStatus OBJECT-TYPE**

SYNTAX            RowStatus  
MAX-ACCESS       read-create  
STATUS            current  
DESCRIPTION

"This object is used to create a new row or modify or delete an existing row in this table.

A profile activated by setting this object to `active'. When `active' is set, the system will validate the profile.

Before a profile can be deleted or taken out of service, (by setting this object to `destroy' or `outOfService') it must be first unreferenced from all associated lines."

::= { vdslLineMCMConfProfileEntry 2 }

**vdslLineMCMConfProfileTxBandTable OBJECT-TYPE**

SYNTAX            SEQUENCE OF VdslLineMCMConfProfileTxBandEntry  
MAX-ACCESS       not-accessible  
STATUS            current  
DESCRIPTION

"This table contains transmit band descriptor configuration information for a VDSL line. Each entry in this table reflects the configuration for one of possibly many bands with a multiple carrier modulation (MCM) VDSL line. These entries are defined by a manager and can be used to configure the VDSL line.

This table MUST be implemented for multiple carrier modulation (MCM) VDSL lines. This table MUST NOT be implemented for single carrier modulation VDSL lines."

::= { vdslMibObjects 10 }

**vdslLineMCMConfProfileTxBandEntry OBJECT-TYPE**

SYNTAX            VdslLineMCMConfProfileTxBandEntry  
MAX-ACCESS       not-accessible  
STATUS            current  
DESCRIPTION

"Each entry consists of a transmit band descriptor, which defines the start and stop bands and the power spectral density (PSD) for that band.

A default profile will always exist. This profile's name will be set to `DEFVAL' and its parameters will be set to vendor specific values, unless otherwise specified in this document."

INDEX { IMPLIED vdslLineConfProfileName,  
                 vdslPhysSide,

```
        vds1MCMConfProfileTxBandNumber }  
 ::= { vds1LineMCMConfProfileTxBandTable 1 }
```

Expires June 1, 2002

[Page 30]

```
VdslLineMCMConfProfileTxBandEntry ::=
    SEQUENCE
    {
        vdslMCMConfProfileTxBandNumber      INTEGER,
        vdslMCMConfProfileTxBandStart        INTEGER,
        vdslMCMConfProfileTxBandStop         INTEGER,
        vdslMCMConfProfileTxBandRowStatus    RowStatus
    }
```

```
vdslMCMConfProfileTxBandNumber OBJECT-TYPE
    SYNTAX      INTEGER
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "The index for this band descriptor entry."
    ::= { vdslLineMCMConfProfileTxBandEntry 1 }
```

```
vdslMCMConfProfileTxBandStart OBJECT-TYPE
    SYNTAX      INTEGER
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "Start tone index for this band."
    REFERENCE    "T1E1.4/2000-013R4" -- Part 3, MCM
    ::= { vdslLineMCMConfProfileTxBandEntry 2 }
```

```
vdslMCMConfProfileTxBandStop OBJECT-TYPE
    SYNTAX      INTEGER
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "Stop tone index for this band."
    REFERENCE    "T1E1.4/2000-013R4" -- Part 3, MCM
    ::= { vdslLineMCMConfProfileTxBandEntry 3 }
```

```
vdslMCMConfProfileTxBandRowStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "This object is used to create a new row or modify or
        delete an existing row in this table.

        A profile activated by setting this object to `active'.
        When `active' is set, the system will validate the profile.

        Before a profile can be deleted or taken out of
        service, (by setting this object to `destroy' or
        `outOfService') it must be first unreferenced
```

```
from all associated lines."  
::= { vdslLineMCMConfProfileTxBandEntry 4 }
```

Expires June 1, 2002

[Page 31]

## vdsLineMCMConfProfileRxBandTable OBJECT-TYPE

SYNTAX SEQUENCE OF VdsLineMCMConfProfileRxBandEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"This table contains receive band descriptor configuration information for a VDSL line. Each entry in this table reflects the configuration for one of possibly many bands with a multiple carrier modulation (MCM) VDSL line. These entries are defined by a manager and can be used to configure the VDSL line.

This table MUST be implemented for multiple carrier modulation (MCM) VDSL lines. This table MUST NOT be implemented for single carrier modulation VDSL lines."

::= { vdsMibObjects 11 }

## vdsLineMCMConfProfileRxBandEntry OBJECT-TYPE

SYNTAX VdsLineMCMConfProfileRxBandEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"Each entry consists of a transmit band descriptor, which defines the start and stop bands and the power spectral density (PSD) for that band.

A default profile will always exist. This profile's name will be set to 'DEFVAL' and its parameters will be set to vendor specific values, unless otherwise specified in this document."

INDEX { IMPLIED vdsLineConfProfileName,  
vdsPhysSide,  
vdsMCMConfProfileRxBandNumber }

::= { vdsLineMCMConfProfileRxBandTable 1 }

## VdsLineMCMConfProfileRxBandEntry ::=

## SEQUENCE

```
{  
  vdsMCMConfProfileRxBandNumber      INTEGER,  
  vdsMCMConfProfileRxBandStart        INTEGER,  
  vdsMCMConfProfileRxBandStop         INTEGER,  
  vdsMCMConfProfileRxBandRowStatus    RowStatus  
}
```

## vdsMCMConfProfileRxBandNumber OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"The index for this band descriptor entry."  
 ::= { vds1LineMCMConfProfileRxBandEntry 1 }

Expires June 1, 2002

[Page 32]



## vdsLMCMConfProfileRxBandStart OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"Start tone index for this band."

REFERENCE "T1E1.4/2000-013R4" -- Part 3, MCM

::= { vdslLineMCMConfProfileRxBandEntry 2 }

## vdsLMCMConfProfileRxBandStop OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"Stop tone index for this band."

REFERENCE "T1E1.4/2000-013R4" -- Part 3, MCM

::= { vdslLineMCMConfProfileRxBandEntry 3 }

## vdsLMCMConfProfileRxBandRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"This object is used to create a new row or modify or delete an existing row in this table.

A profile activated by setting this object to 'active'.  
When 'active' is set, the system will validate the profile.

Before a profile can be deleted or taken out of service, (by setting this object to 'destroy' or 'outOfService') it must be first unreferenced from all associated lines."

::= { vdslLineMCMConfProfileRxBandEntry 4 }

## vdslLineMCMConfProfileTxPSDTable OBJECT-TYPE

SYNTAX SEQUENCE OF VdslLineMCMConfProfileTxPSDEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"This table contains transmit PSD mask descriptor configuration information for a VDSL line. Each entry in this table reflects the configuration for one tone within a multiple carrier modulation (MCM) VDSL line. These entries are defined by a manager and can be used to configure the VDSL line.

This table MUST be implemented for multiple carrier modulation (MCM) VDSL lines. This table MUST NOT be

```
    implemented for single carrier modulation VDSL lines."  
 ::= { vdslMibObjects 12 }
```

Expires June 1, 2002

[Page 33]

## vdsllineMCMConfProfileTxPSDEntry OBJECT-TYPE

SYNTAX VdsllineMCMConfProfileTxPSDEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"Each entry consists of a transmit PSD mask descriptor,  
which defines the power spectral density (PSD) for a tone.

A default profile will always exist. This profile's name  
will be set to 'DEFVAL' and its parameters will be set to  
vendor specific values, unless otherwise specified in this  
document."

INDEX { IMPLIED vdsllineConfProfileName,  
          vdsllPhysSide,  
          vdsllMCMConfProfileTxPSDNumber }  
::= { vdsllineMCMConfProfileTxPSDTable 1 }

## VdsllineMCMConfProfileTxPSDEntry ::=

## SEQUENCE

{  
  vdsllMCMConfProfileTxPSDNumber          INTEGER,  
  vdsllMCMConfProfileTxPSDTone           INTEGER,  
  vdsllMCMConfProfileTxPSDPSD            INTEGER,  
  vdsllMCMConfProfileTxPSDRowStatus      RowStatus  
}

## vdsllMCMConfProfileTxPSDNumber OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"The index for this mask descriptor entry."

::= { vdsllineMCMConfProfileTxPSDEntry 1 }

## vdsllMCMConfProfileTxPSDTone OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"The tone index for which the PSD is being specified."

REFERENCE "T1E1.4/2000-013R4" -- Part 3, MCM

::= { vdsllineMCMConfProfileTxPSDEntry 2 }

## vdsllMCMConfProfileTxPSDPSD OBJECT-TYPE

SYNTAX INTEGER

UNITS "0.5dB"

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"Power Spectral Density level in steps of 0.5dB with  
an offset of -140dbm/Hz."

REFERENCE "T1E1.4/2000-013R4" -- Part 3, MCM

Expires June 1, 2002

[Page 34]

```
::= { vdslLineMCMConfProfileTxPSDEntry 3 }
```

**vdslMCMConfProfileTxPSDRowStatus OBJECT-TYPE**

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

**DESCRIPTION**

"This object is used to create a new row or modify or delete an existing row in this table.

A profile activated by setting this object to 'active'. When 'active' is set, the system will validate the profile.

Before a profile can be deleted or taken out of service, (by setting this object to 'destroy' or 'outOfService') it must be first unreferenced from all associated lines."

```
::= { vdslLineMCMConfProfileTxPSDEntry 4 }
```

**vdslLineMCMConfProfileMaxTxPSDTable OBJECT-TYPE**

SYNTAX SEQUENCE OF VdslLineMCMConfProfileMaxTxPSDEntry

MAX-ACCESS not-accessible

STATUS current

**DESCRIPTION**

"This table contains transmit maximum PSD mask descriptor configuration information for a VDSL line. Each entry in this table reflects the configuration for one tone within a multiple carrier modulation (MCM) VDSL modem. These entries are defined by a manager and can be used to configure the VDSL line.

This table MUST be implemented for multiple carrier modulation (MCM) VDSL lines. This table MUST NOT be implemented for single carrier modulation VDSL lines."

```
::= { vdslMibObjects 13 }
```

**vdslLineMCMConfProfileMaxTxPSDEntry OBJECT-TYPE**

SYNTAX VdslLineMCMConfProfileMaxTxPSDEntry

MAX-ACCESS not-accessible

STATUS current

**DESCRIPTION**

"Each entry consists of a transmit PSD mask descriptor, which defines the maximum power spectral density (PSD) for a tone.

A default profile will always exist. This profile's name will be set to 'DEFVAL' and its parameters will be set to vendor specific values, unless otherwise specified in this document."

```
INDEX { IMPLIED vdslLineConfProfileName,  
               vdslPhysSide,  
               vdslMCMConfProfileMaxTxPSDNumber }
```

Expires June 1, 2002

[Page 35]

```
::= { vdslLineMCMConfProfileMaxTxPSDTable 1 }
```

```
VdslLineMCMConfProfileMaxTxPSDEntry ::=
```

```
SEQUENCE
```

```
{
    vdslMCMConfProfileMaxTxPSDNumber          INTEGER,
    vdslMCMConfProfileMaxTxPSDTone            INTEGER,
    vdslMCMConfProfileMaxTxPSDPSD             INTEGER,
    vdslMCMConfProfileMaxTxPSDRowStatus       RowStatus
}
```

```
vdslMCMConfProfileMaxTxPSDNumber OBJECT-TYPE
```

```
SYNTAX      INTEGER
```

```
MAX-ACCESS  read-create
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"The index for this band descriptor entry."
```

```
::= { vdslLineMCMConfProfileMaxTxPSDEntry 1 }
```

```
vdslMCMConfProfileMaxTxPSDTone OBJECT-TYPE
```

```
SYNTAX      INTEGER
```

```
MAX-ACCESS  read-create
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"The tone index for which the PSD is being specified."
```

```
REFERENCE   "T1E1.4/2000-013R4"    -- Part 3, MCM
```

```
::= { vdslLineMCMConfProfileMaxTxPSDEntry 2 }
```

```
vdslMCMConfProfileMaxTxPSDPSD OBJECT-TYPE
```

```
SYNTAX      INTEGER
```

```
UNITS       "0.5dB"
```

```
MAX-ACCESS  read-create
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Power Spectral Density level in steps of 0.5dB with
an offset of -140dbm/Hz."
```

```
REFERENCE   "T1E1.4/2000-013R4"    -- Part 3, MCM
```

```
::= { vdslLineMCMConfProfileMaxTxPSDEntry 3 }
```

```
vdslMCMConfProfileMaxTxPSDRowStatus OBJECT-TYPE
```

```
SYNTAX      RowStatus
```

```
MAX-ACCESS  read-create
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This object is used to create a new row or modify or
delete an existing row in this table."
```

```
A profile activated by setting this object to `active'.
When `active' is set, the system will validate the profile.
```

Before a profile can be deleted or taken out of service, (by setting this object to `destroy' or

Expires June 1, 2002

[Page 36]



```

        `outOfService') it must be first unreferenced
        from all associated lines."
 ::= { vdslLineMCMConfProfileMaxTxPSDEntry 4 }

```

#### vdslLineMCMConfProfileMaxRxPSDTable OBJECT-TYPE

```

SYNTAX      SEQUENCE OF VdslLineMCMConfProfileMaxRxPSDEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION

```

"This table contains maximum receive PSD mask descriptor configuration information for a VDSL line. Each entry in this table reflects the configuration for one tone within a multiple carrier modulation (MCM) VDSL modem. These entries are defined by a manager and can be used to configure the VDSL line.

This table MUST be implemented for multiple carrier modulation (MCM) VDSL lines. This table MUST NOT be implemented for single carrier modulation VDSL lines."

```
 ::= { vdslMibObjects 14 }
```

#### vdslLineMCMConfProfileMaxRxPSDEntry OBJECT-TYPE

```

SYNTAX      VdslLineMCMConfProfileMaxRxPSDEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION

```

"Each entry consists of a transmit PSD mask descriptor, which defines the power spectral density (PSD) for a tone.

A default profile will always exist. This profile's name will be set to `DEFVAL' and its parameters will be set to vendor specific values, unless otherwise specified in this document."

```

INDEX { IMPLIED vdslLineConfProfileName,
              vdslPhysSide,
              vdslMCMConfProfileMaxRxPSDNumber }

```

```
 ::= { vdslLineMCMConfProfileMaxRxPSDTable 1 }
```

#### VdslLineMCMConfProfileMaxRxPSDEntry ::=

```

SEQUENCE
{
    vdslMCMConfProfileMaxRxPSDNumber      INTEGER,
    vdslMCMConfProfileMaxRxPSDTone        INTEGER,
    vdslMCMConfProfileMaxRxPSDPSD         INTEGER,
    vdslMCMConfProfileMaxRxPSDRowStatus   RowStatus
}

```

#### vdslMCMConfProfileMaxRxPSDNumber OBJECT-TYPE

SYNTAX	INTEGER
MAX-ACCESS	read-create
STATUS	current

Expires June 1, 2002

[Page 37]

## DESCRIPTION

"The index for this band descriptor entry."  
 ::= { vdsllineMCMConfProfileMaxRxPSDEntry 1 }

## vdsllMCMConfProfileMaxRxPSDTone OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"The tone index for which the PSD is being specified."  
 REFERENCE "T1E1.4/2000-013R4" -- Part 3, MCM  
 ::= { vdsllineMCMConfProfileMaxRxPSDEntry 2 }

## vdsllMCMConfProfileMaxRxPSDPSD OBJECT-TYPE

SYNTAX INTEGER

UNITS "0.5dB"

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"Power Spectral Density level in steps of 0.5dB with  
 an offset of -140dbm/Hz."  
 REFERENCE "T1E1.4/2000-013R4" -- Part 3, MCM  
 ::= { vdsllineMCMConfProfileMaxRxPSDEntry 3 }

## vdsllMCMConfProfileMaxRxPSDRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"This object is used to create a new row or modify or  
 delete an existing row in this table.

A profile activated by setting this object to `active'.  
 When `active' is set, the system will validate the profile.

Before a profile can be deleted or taken out of  
 service, (by setting this object to `destroy' or  
 `outOfService') it must be first unreferenced  
 from all associated lines."  
 ::= { vdsllineMCMConfProfileMaxRxPSDEntry 4 }

--

-- Single carrier modulation (SCM) configuration profile table

--

## vdsllLineSCMConfProfileTable OBJECT-TYPE

SYNTAX SEQUENCE OF VdsllLineSCMConfProfileEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table contains information on the VDSL line configuration. One entry in this table reflects a

Expires June 1, 2002

[Page 38]

profile defined by a manager which can be used to configure the VDSL line.

This table MUST be implemented for single carrier modulation (SCM) VDSL lines. This table MUST NOT be implemented for multiple carrier modulation (MCM) VDSL lines."

```
::= { vdslMibObjects 15 }
```

#### vdslLineSCMConfProfileEntry OBJECT-TYPE

SYNTAX VdslLineSCMConfProfileEntry

MAX-ACCESS not-accessible

STATUS current

#### DESCRIPTION

"Each entry consists of a list of parameters that represents the configuration of a single carrier modulation VDSL modem. A default profile will always exist. This profile's name will be set to 'DEFVAL' and its parameters will be set to vendor specific values, unless otherwise specified in this document."

INDEX { IMPLIED vdslLineConfProfileName,  
vdslPhysSide }

```
::= { vdslLineSCMConfProfileTable 1 }
```

#### VdslLineSCMConfProfileEntry ::=

#### SEQUENCE

```
{
    vdslSCMConfProfileInterleaveDepth    INTEGER,
    vdslSCMConfProfileFastCodewordSize    INTEGER,
    vdslSCMConfProfileTransmitPSDMask     BITS,
    vdslSCMConfProfileTransmitPSDLevel    INTEGER,
    vdslSCMConfProfileSymbolRateProfile   INTEGER,
    vdslSCMConfProfileConstellationSize    INTEGER,
    vdslSCMConfProfileCenterFrequency     INTEGER,
    vdslSCMConfProfileRowStatus            RowStatus
}
```

#### vdslSCMConfProfileInterleaveDepth OBJECT-TYPE

SYNTAX INTEGER

UNITS "octets"

MAX-ACCESS read-create

STATUS current

#### DESCRIPTION

"Specifies the interleaving depth."

REFERENCE "T1E1.4/2000-011R3" -- Part 2, SCM

```
::= { vdslLineSCMConfProfileEntry 1 }
```

#### vdslSCMConfProfileFastCodewordSize OBJECT-TYPE

SYNTAX INTEGER(0..180)

UNITS	"octets"
MAX-ACCESS	read-create
STATUS	current

Expires June 1, 2002

[Page 39]

## DESCRIPTION

"Specifies the length in octets of the fast codeword.

A value of 0 indicates that the single latency transport class is to be utilized."

REFERENCE "T1E1.4/2000-011R3" -- Part 2, SCM

::= { vdslLineSCMConfProfileEntry 2 }

## vdslSCMConfProfileTransmitPSDMask OBJECT-TYPE

SYNTAX BITS

```
{
  vendorNotch1(0),      -- vendor specific notch
  vendorNotch2(1),      -- vendor specific notch
  amateurBand30m(2),    -- amateur radio band notch
  amateurBand40m(3),    -- amateur radio band notch
  amateurBand80m(4),    -- amateur radio band notch
  amateurBand160m(5)    -- amateur radio band notch
}
```

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"The transmit power spectral density mask code."

REFERENCE "T1E1.4/2000-011R3" -- Part 2, SCM

::= { vdslLineSCMConfProfileEntry 3 }

## vdslSCMConfProfileTransmitPSDLevel OBJECT-TYPE

SYNTAX INTEGER

UNITS "dBm/Hz"

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"The transmit power spectral density for the VDSL modem."

REFERENCE "T1E1.4/2000-011R3" -- Part 2, SCM

::= { vdslLineSCMConfProfileEntry 4 }

## vdslSCMConfProfileSymbolRateProfile OBJECT-TYPE

SYNTAX INTEGER

UNITS "kbaud"

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"The symbol rate profile calculated as  $S = SR/BSR$ , where SR is the required symbol rate in kbaud,  $BSR = 67.5$ ."

REFERENCE "T1E1.4/2000-011R3" -- Part 2, SCM

::= { vdslLineSCMConfProfileEntry 5 }

## vdslSCMConfProfileConstellationSize OBJECT-TYPE

SYNTAX INTEGER(0..15)

UNITS "log2"

MAX-ACCESS read-create

STATUS        current

DESCRIPTION

"Specifies the constellation size."

Expires June 1, 2002

[Page 40]



REFERENCE "T1E1.4/2000-011R3" -- Part 2, SCM  
::= { vdslLineSCMConfProfileEntry 6 }

vdslSCMConfProfileCenterFrequency OBJECT-TYPE

SYNTAX INTEGER(0..511)  
UNITS "kHz"  
MAX-ACCESS read-create  
STATUS current  
DESCRIPTION  
"Specifies the center frequency profile K."  
REFERENCE "T1E1.4/2000-011R3" -- Part 2, SCM  
::= { vdslLineSCMConfProfileEntry 7 }

vdslSCMConfProfileRowStatus OBJECT-TYPE

SYNTAX RowStatus  
MAX-ACCESS read-create  
STATUS current  
DESCRIPTION  
"This object is used to create a new row or modify or  
delete an existing row in this table.  
  
A profile activated by setting this object to `active'.  
When `active' is set, the system will validate the profile.  
  
Before a profile can be deleted or taken out of  
service, (by setting this object to `destroy' or  
`outOfService') it must be first unreferenced  
from all associated lines."  
::= { vdslLineSCMConfProfileEntry 8 }

--

-- Alarm configuration profile table

--

vdslLineAlarmConfProfileTable OBJECT-TYPE

SYNTAX SEQUENCE OF VdslLineAlarmConfProfileEntry  
MAX-ACCESS not-accessible  
STATUS current  
DESCRIPTION  
"This table contains information on the VDSL line alarm  
configuration. One entry in this table reflects a profile  
defined by a manager which can be used to configure the  
VDSL line alarm thresholds."  
::= { vdslMibObjects 16 }

vdslLineAlarmConfProfileEntry OBJECT-TYPE

SYNTAX VdslLineAlarmConfProfileEntry  
MAX-ACCESS not-accessible  
STATUS current

DESCRIPTION

"Each entry consists of a list of parameters that represents the configuration of a VDSL line alarm

Expires June 1, 2002

[Page 41]

profile. A default profile will always exist. This profile's name will be set to `DEFVAL' and its parameters will be set to vendor specific values, unless otherwise specified in this document."

```
INDEX { IMPLIED vdslLineAlarmConfProfileName,
          vdslPhysSide }
 ::= { vdslLineAlarmConfProfileTable 1 }
```

VdslLineAlarmConfProfileEntry ::=

```
SEQUENCE
{
  vdslLineAlarmConfProfileName      SnmpAdminString,
  vdslThresh15MinLofs               INTEGER,
  vdslThresh15MinLoss               INTEGER,
  vdslThresh15MinLprs               INTEGER,
  vdslThresh15MinESS               INTEGER,
  vdslInitFailureNotificationEnable TruthValue,
  vdslLineAlarmConfProfileRowStatus RowStatus
}
```

vdslLineAlarmConfProfileName OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE (1..32))

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object is used by the line alarm configuration table in order to identify a row in that table. The system will always provide a default profile whose name is `DEFVAL'."

```
::= { vdslLineAlarmConfProfileEntry 1 }
```

vdslThresh15MinLofs OBJECT-TYPE

SYNTAX INTEGER(0..899)

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object configures the threshold for the number of loss of frame seconds (lofs) within any given 15-minute performance data collection interval. If the value of loss of frame seconds in a particular 15-minute collection interval reaches/exceeds this value, a vdslPerfLofsThreshNotification notification will be generated. No more than one notification will be sent per interval."

```
::= { vdslLineAlarmConfProfileEntry 2 }
```

vdslThresh15MinLoss OBJECT-TYPE

SYNTAX INTEGER(0..899)

UNITS "seconds"

MAX-ACCESS	read-create
STATUS	current
DESCRIPTION	

Expires June 1, 2002

[Page 42]

"This object configures the threshold for the number of loss of signal seconds (loss) within any given 15-minute performance data collection interval. If the value of loss of frame seconds in a particular 15-minute collection interval reaches/exceeds this value, a vdslPerfLossThreshNotification notification will be generated. One notification will be sent per interval per endpoint."

::= { vdslLineAlarmConfProfileEntry 3 }

vdslThresh15MinLprs OBJECT-TYPE

SYNTAX INTEGER(0..899)

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object configures the threshold for the number of loss of power seconds (lprs) within any given 15-minute performance data collection interval. If the value of loss of frame seconds in a particular 15-minute collection interval reaches/exceeds this value, a vdslPerfLprsThreshNotification notification will be generated. No more than one notification will be sent per interval."

::= { vdslLineAlarmConfProfileEntry 4 }

vdslThresh15MinESs OBJECT-TYPE

SYNTAX INTEGER(0..899)

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object configures the threshold for the number of errored seconds (lofs) within any given 15-minute performance data collection interval. If the value of loss of frame seconds in a particular 15-minute collection interval reaches/exceeds this value, a vdslPerfESsThreshNotification notification will be generated. No more than one notification will be sent per interval."

::= { vdslLineAlarmConfProfileEntry 5 }

vdslInitFailureNotificationEnable OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object specifies if a vdslInitFailureNotification notification will be generated if an initialization

```
failure occurs."  
::= { vdslLineAlarmConfProfileEntry 6 }
```

Expires June 1, 2002

[Page 43]

## vdslLineAlarmConfProfileRowStatus OBJECT-TYPE

SYNTAX RowStatus  
MAX-ACCESS read-create  
STATUS current  
DESCRIPTION

"This object is used to create a new row or modify or delete an existing row in this table.

A profile activated by setting this object to 'active'. When 'active' is set, the system will validate the profile.

Before a profile can be deleted or taken out of service, (by setting this object to 'destroy' or 'outOfService') it must be first unreferenced from all associated lines."

::= { vdslLineAlarmConfProfileEntry 7 }

## -- Notification definitions

vdslNotifications OBJECT IDENTIFIER ::= { vdslLineMib 0 }

## vdslPerfLofsThreshNotification NOTIFICATION-TYPE

OBJECTS {  
vdslPerfCurr15MinLofs,  
vdslThresh15MinLofs  
}  
STATUS current

## DESCRIPTION

"Loss of Framing 15-minute interval threshold reached."

::= { vdslNotifications 1 }

## vdslPerfLossThreshNotification NOTIFICATION-TYPE

OBJECTS {  
vdslPerfCurr15MinLoss,  
vdslThresh15MinLoss  
}  
STATUS current

## DESCRIPTION

"Loss of Signal 15-minute interval threshold reached."

::= { vdslNotifications 2 }

## vdslPerfLprsThreshNotification NOTIFICATION-TYPE

OBJECTS {  
vdslPerfCurr15MinLprs,  
vdslThresh15MinLprs  
}  
STATUS current

## DESCRIPTION

"Loss of Power 15-minute interval threshold reached."

```
::= { vdslNotifications 3 }
```

```
vdslPerfESsThreshNotification NOTIFICATION-TYPE
```

Expires June 1, 2002

[Page 44]



```
OBJECTS      {
                vdslPerfCurr15MinESs,
                vdslThresh15MinESs
            }
STATUS       current
DESCRIPTION
    "Errored Second 15-minute interval threshold reached."
 ::= { vdslNotifications 4 }

vdslInitFailureNotification NOTIFICATION-TYPE
OBJECTS      {
                vdslCurrStatus
            }
STATUS       current
DESCRIPTION
    "Vtu initialization failed.  See vdslCurrStatus for
    potential reasons."
 ::= { vdslNotifications 5 }

-- conformance information

vdslConformance OBJECT IDENTIFIER ::= { vdslLineMib 3 }
vdslGroups OBJECT IDENTIFIER ::= { vdslConformance 1 }
vdslCompliances OBJECT IDENTIFIER ::= { vdslConformance 2 }

vdslLineMibCompliance MODULE-COMPLIANCE
STATUS current
DESCRIPTION
    "The compliance statement for SNMP entities which
    manage VDSL interfaces."

MODULE -- this module
MANDATORY-GROUPS
    {
        vdslGroup
    }

GROUP      vdslMCMGroup
DESCRIPTION
    "This group is mandatory for VDSL Lines which
    utilize multiple carrier modulation.

    This group should not be implemented for VDSL lines
    which utilize single carrier modulation."

GROUP      vdslSCMGroup
DESCRIPTION
    "This group is mandatory for VDSL lines which
    utilize single carrier modulation."
```

This group should not be implemented for VDSL lines  
which utilize multiple carrier modulation"

Expires June 1, 2002

[Page 45]

```
 ::= { vdslCompliances 1 }

-- units of conformance

vdslGroup OBJECT-GROUP
    OBJECTS
        {
            vdslLineCoding,
            vdslLineType,
            vdslLineConfProfile,
            vdslLineAlarmConfProfile,
            vdslPhysSide,
            vdslInvSerialNumber,
            vdslInvVendorID,
            vdslInvVersionNumber,
            vdslCurrSnrMgn,
            vdslCurrAtn,
            vdslCurrStatus,
            vdslCurrOutputPwr,
            vdslCurrAttainableRate,
            vdslChanInterleaveDelay,
            vdslChanCrcBlockLength,
            vdslPerfValidIntervals,
            vdslPerfInvalidIntervals,
            vdslPerfLofs,
            vdslPerfLoss,
            vdslPerfLprs,
            vdslPerfESS,
            vdslPerfInits,
            vdslPerfCurr15MinTimeElapsed,
            vdslPerfCurr15MinLofs,
            vdslPerfCurr15MinLoss,
            vdslPerfCurr15MinLprs,
            vdslPerfCurr15MinESS,
            vdslPerfCurr15MinInits,
            vdslIntervalLofs,
            vdslIntervalLoss,
            vdslIntervalLprs,
            vdslIntervalESS,
            vdslIntervalInits,
            vdslChanPerfValidIntervals,
            vdslChanPerfInvalidIntervals,
            vdslChanCorrectedOctets,
            vdslChanUncorrectBlks,
            vdslChanPerfCurr15MinTimeElapsed,
            vdslChanPerfCurr15MinCorrectedOctets,
            vdslChanPerfCurr15MinUncorrectBlks,
            vdslChanIntervalCorrectedOctets,
            vdslChanIntervalUncorrectBlks,
```

vdsLineConfProfileName,  
vdsLineConfTargetSnrMgn,  
vdsLineConfTxSpeed,

Expires June 1, 2002

[Page 46]

```
        vdslLineConfRxSpeed,
        vdslLineConfProfileRowStatus,
        vdslLineAlarmConfProfileName,
        vdslThresh15MinLofs,
        vdslThresh15MinLoss,
        vdslThresh15MinLprs,
        vdslThresh15MinESs,
        vdslInitFailureNotificationEnable,
        vdslLineAlarmConfProfileRowStatus
    }
STATUS      current
DESCRIPTION
    "A collection of objects providing information about
      a VDSL Line."
 ::= { vdslGroups 1 }

vdslMCMGroup OBJECT-GROUP
OBJECTS
    {
        vdslMCMConfProfileTxWindowLength,
        vdslMCMConfProfileRowStatus,
        vdslMCMConfProfileTxBandNumber,
        vdslMCMConfProfileTxBandStart,
        vdslMCMConfProfileTxBandStop,
        vdslMCMConfProfileTxBandRowStatus,
        vdslMCMConfProfileRxBandNumber,
        vdslMCMConfProfileRxBandStart,
        vdslMCMConfProfileRxBandStop,
        vdslMCMConfProfileRxBandRowStatus,
        vdslMCMConfProfileTxPSDNumber,
        vdslMCMConfProfileTxPSDTone,
        vdslMCMConfProfileTxPSDPSD,
        vdslMCMConfProfileTxPSDRowStatus,
        vdslMCMConfProfileMaxTxPSDNumber,
        vdslMCMConfProfileMaxTxPSDTone,
        vdslMCMConfProfileMaxTxPSDPSD,
        vdslMCMConfProfileMaxTxPSDRowStatus,
        vdslMCMConfProfileMaxRxPSDNumber,
        vdslMCMConfProfileMaxRxPSDTone,
        vdslMCMConfProfileMaxRxPSDPSD,
        vdslMCMConfProfileMaxRxPSDRowStatus
    }
STATUS      current
DESCRIPTION
    "A collection of objects providing configuration
      information for a VDSL line based upon multiple carrier
      modulation modem."
 ::= { vdslGroups 2 }
```

vds1SCMGroup      OBJECT-GROUP  
OBJECTS  
{

Expires June 1, 2002

[Page 47]

```
        vds1SCMConfProfileInterleaveDepth,
        vds1SCMConfProfileFastCodewordSize,
        vds1SCMConfProfileTransmitPSDMask,
        vds1SCMConfProfileTransmitPSDLevel,
        vds1SCMConfProfileSymbolRateProfile,
        vds1SCMConfProfileConstellationSize,
        vds1SCMConfProfileCenterFrequency,
        vds1SCMConfProfileRowStatus
    }
    STATUS          current
    DESCRIPTION
        "A collection of objects providing configuration
        information for a VDSL line based upon single carrier
        modulation modem."
    ::= { vds1Groups 3 }

vds1NotificationGroup    NOTIFICATION-GROUP
    NOTIFICATIONS
    {
        vds1PerfLofsThreshNotification,
        vds1PerfLossThreshNotification,
        vds1PerfLprsThreshNotification,
        vds1PerfESsThreshNotification,
        vds1InitFailureNotification
    }
    STATUS          current
    DESCRIPTION
        "This group supports notifications of significant
        conditions associated with VDSL Lines."
    ::= { vds1Groups 4 }

END
```

## **7. Security Considerations**

- 1) Blocking unauthorized access to the VDSL MIB via the element management system is outside the scope of this document. It should be noted that access to the MIB permits the unauthorized entity to modify the profiles ([section 6.4](#)) such that both subscriber service and network operations can be interfered with. Subscriber service can be altered by modifying any of a number of service characteristics such as rate partitioning and maximum transmission rates. Network operations can be impacted by modification of notification thresholds such as lof thresholds.
- 2) There are a number of managed objects in this MIB that may be considered to contain sensitive information. In particular, the certain objects may be considered sensitive in many environments, since it would allow an intruder to obtain information about which

vendor's equipment is in use on the network. Therefore, it may be important in some environments to control read access to these objects and possibly to even encrypt the values of these object

Expires June 1, 2002

[Page 48]



when sending them over the network via SNMP. Not all versions of SNMP provide features for such a secure environment.

It is recommended that the implementors consider the security features as provided by the SNMPv3 framework. Specifically, the use of the User-based Security Model [RFC 2574](#) [12] and the View-based Access Control Model [RFC 2575](#) [15] is recommended.

It is then a customer/user responsibility to ensure that the SNMP entity giving access to an instance of this MIB, is properly configured to give access to those objects only to those principals (users) that have legitimate rights to access them.

3) VDSL layer connectivity from the Vtur will permit the subscriber to manipulate both the VDSL link directly and the VDSL embedded operations channel (EOC) for their own loop. For example, unchecked or unfiltered fluctuations initiated by the subscriber could generate sufficient notifications to potentially overwhelm either the management interface to the network or the element manager.

It should be noted that interface indices in this MIB are maintained persistently. VACM data relating to these should be stored persistently.

## 8. Acknowledgments

Your name goes here!

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Expires June 1, 2002

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Expires June 1, 2002

[Page 51]

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Expires June 1, 2002

[Page 52]