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**Definitions of Managed Objects for New Generation Digital Subscriber
Lines (NG-XDSL)
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Abstract

This document defines a Management Information Base (MIB) module for use with network management protocols in the Internet community. In particular, it describes objects used for managing parameters of "Asymmetric Digital Subscriber Line" family of interface types,

especially including ADSL, ADSL2, and ADSL2+.

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1. The Internet-Standard Management Framework

For a detailed overview of the documents that describe the current Internet-Standard Management Framework, please refer to [Section 7 of RFC 3410](#) [[RFC3410](#)].

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. MIB objects are generally accessed through the Simple Network Management Protocol (SNMP). Objects in the MIB are defined using the mechanisms defined in the Structure of Management Information (SMI). This memo specifies a MIB module that is compliant to the SMIV2, which is described in STD 58, [RFC 2578](#) [[RFC2578](#)], STD 58, [RFC 2579](#) [[RFC2579](#)] and STD 58, [RFC 2580](#) [[RFC2580](#)].

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](#) [[RFC2119](#)].

2. Overview

This document defines a Management Information Base (MIB) module for use with network management protocols in the Internet community for the purpose of managing ADSL, ADSL2, and ADSL2+ lines.

The MIB module described in [RFC 2662](#) [[RFC2662](#)] describes objects used for managing Asymmetric Bit-Rate DSL (ADSL) interfaces per [[T1E1.413](#)], [[G.992.1](#)] and [[G.992.2](#)]. These object descriptions are based upon the specifications for the ADSL Embedded Operations Channel (EOC) as defined in American National Standards Institute (ANSI) T1E1.413/1995 [[T1E1.413](#)] and International Telecommunication Union (ITU-T) G.992.1 [[G.992.1](#)] and G.992.2 [[G.992.2](#)].

This document does not obsolete [RFC 2662](#) [[RFC2662](#)] but rather provides a more comprehensive management model that includes also the ADSL2 and ADSL2+ technologies per G.992.3, G.992.4 and G.992.5 ([[G.992.3](#)], [[G.992.4](#)] and [[G.992.5](#)] respectively). In addition, objects have been added to improve the management of ADSL, ADSL2, and ADSL2+ lines.

Additionally the management framework for New Generation ADSL lines specified [[TR-90](#)]. by the Digital Subscriber Line Forum (DSL Forum) has been taken into consideration That framework is based on ITU-T G.997.1 standard [[G.997.1](#)].

Note that future revision of ITU-T G.997.1 standard will refer also to next generation of VDSL technology, known as VDSL2, per ITU-T

G.993.2 [[G.993.2](#)]. However, managing VDSL2 lines is currently beyond the scope of the MIB this document specifies.

The MIB module is located in the MIB tree under MIB 2 transmission, as discussed in the MIB-2 Integration ([RFC 2863](#) [[RFC2863](#)]) section of this document.

[2.1](#). Relationship to other MIBs

This section outlines the relationship of this MIB module with other MIB modules described in RFCs. Specifically, IF-MIB as presented in [RFC 2863](#) [[RFC2863](#)] is discussed.

[2.1.1](#). General IF-MIB Integration ([RFC 2863](#))

The New Generation xDSL Line MIB specifies the detailed attributes of a data interface. As such, it needs to integrate with [RFC 2863](#) [[RFC2863](#)]. The IANA has assigned the following ifTypes which may be applicable for ADSL lines:

```
IANAifType ::= TEXTUAL-CONVENTION
    ...
    SYNTAX INTEGER {
        ...
        channel(70),      -- channel
        ADSL (94),        -- Asymmetric Digital Subscriber Loop
        ...
        Interleave(124),  -- Interleaved Channel
        Fast(125),        -- Fast Channel
        ...
        ADSL2 (xx),       -- Asymmetric Digital Subscriber Loop 2
        ...
    }
```

ADSL lines that are identified with ifType=ADSL (94) SHOULD be managed with the MIB specified by [RFC2662](#). ADSL, ADSL2 and ADSL2+ lines identified with ifType=ADSL2 (xx) SHOULD be managed with the MIB specified by this document.

In any case the management system may use either ifType=Interleave (124) or Fast (125) for each channel, e.g., depending on whether or not it activates the interleaver on that channel. It can also use the ifType=channel (70).

Note that the ifFixedLengthGroup from [RFC 2863](#) [[RFC2863](#)] MUST be supported and that the ifRcvAddressGroup does not apply to this MIB module.

2.1.2. Usage of ifTable

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

The following attributes are part of the mandatory ifGeneralInformationGroup in the Interfaces MIB [[RFC2863](#)], and are not duplicated in the New Generation DSL MIB.

=====

ifIndex	Interface index.
ifDescr	See interfaces MIB.
ifType	ADSL2 (xxx) or Channel (70) or Ineterleave (124) or Fast (125)
ifSpeed	Set as appropriate.
ifPhysAddress	This object MUST have an octet string with zero length.
ifAdminStatus	See interfaces MIB.
ifOperStatus	See interfaces MIB.
ifLastChange	See interfaces MIB.
ifName	See interfaces MIB.
ifAlias	See interfaces MIB.
ifLinkUpDownTrapEnable	Default to enabled(1).
ifHighSpeed	Set as appropriate.
ifConnectorPresent	Set as appropriate.

=====

Figure 1: Use of ifTable Objects

2.2. IANA Considerations

The NGDSL-LINE-MIB module requires the allocation of a new ifType value for Asymmetric Digital Subscriber Loop Version 2, to distinguish between ADSL lines that are managed with the [RFC2662](#) management model and ADSL/ADSL2 and ADSL2+ lines managed with the model defined in this document.

Also the NGDSL-LINE-MIB module requires the allocation of a single object identifier for its MODULE-IDENTITY. The IANA should allocate this object identifier in the transmission subtree.

An assignment was in fact done when [RFC 2662](#) was published, but as this MIB does not obsolete [RFC 2662](#) it requires new assignment from IANA.

2.3. Conventions used in the MIB Module

2.3.1. Naming Conventions

- A. AtuC refers to a central site terminal unit;
- B. AtuR refers to a remote site terminal unit;
- C. xtu refers to a terminal unit; either an AtuC or AtuR.
- D. CRC is cyclic redundancy check.
- E. DELT means Dual Ended Loop Test.
- F. ES means errored second.
- G. FEC means Forward Error Correction.
- H. LOF means loss of framing.
- I. LOS means loss of signal.
- J. LOSS means LOS Second.
- K. SES means severely errored second.
- L. SNR means signal-to-noise ratio.
- M. UAS means unavailable second.

2.3.2. Textual Conventions

The following textual conventions are defined to reflect the line topology in the MIB module (further discussed in the following section), the various transmission modes, power states, synchronization states, possible values for various configuration parameters, status parameters and other parameter types.

o Adsl2Unit:

Attributes with this syntax uniquely identify each unit in the ADSL/ADSL2/ADSL2+ link. It mirrors the EOC addressing mechanism:

atuc(1)	- central office (CO) terminal unit
atur(2)	- customer premises equipment (CPE) terminal unit

o Adsl2Direction:

Attributes with this syntax uniquely identify a transmission direction in a ADSL/ADSL2/ADSL2+ link. Upstream direction is a transmission from the customer premises equipment (CPE) towards the central office (CO), while downstream direction is a transmission from the CO towards the CPE.

upstream(1)	- Transmission from the CPE to the CO
downstream(2)	- Transmission from the CO to the CPE

o Adsl2TransmissionModeType:

Attributes with this syntax reference the list of possible transmission modes for ADSL/ADSL2 or ADSL2+.

Specified as a BITS construct, there are currently few dozens of transmission modes in the list.

o Adsl2RaMode:

Attributes with this syntax reference if and how Rate- Adaptive synchronization is being used on the respective ADSL/ADSL2 or ADSL2+ link:

manual (1)	- No Rate-Adaptation. The initialization process attempts to synchronize to a specified rate.
rainit (2)	- Rate-Adaptation during initialization process only, which attempts to synchronize to a rate between minimum and maximum specified values.
dynamicRa (3)	- Dynamic Rate-Adaptation during initialization process as well as during SHOWTIME.

o Adsl2InitResult:

Attributes with this syntax reference the recent result Of full initialization attempt:

noFail (0)	- Successful initialization
configError (1)	- Configuration failure
configNotFeasible (2)	- Configuration details not supported
commFail (3)	- Communication failure
noPeerAtu (4)	- Peer ATU not detected
otherCause (5)	- Other initialization failure reason

o Adsl2OperationModes:

Attributes with this syntax uniquely identify an ADSL mode, which is a category associated with each transmission mode defined for the ADSL/ADSL2 or ADSL2+ link. Part of the line configuration profile depends on the ADSL Mode:

defMode (1),	- The default/generic PSD configuration. The default configuration will be used when no other matching mode specific configuration can be found.
adsl (2),	- ADSL (POTS or ISDN)
adsl2Pots (3),	- ADSL2 (ISDN)
adsl2Isdn (4),	- ADSL2 (ISDN)
adsl2PlusPots (5),	- ADSL2+ (POTS)
adsl2PlusIsdn (6),	- ADSL2+ (ISDN)
adsl2ReachExtended (7),	- Reach Extended ADSL2

o Adsl2PowerMngState:

Attributes with this syntax uniquely identify each power management state defined for the ADSL/ADSL2 or ADSL2+ link:

l0(0)	- L0 - Full power management state
l1(1)	- L1 - Reduced power management state (for G.992.2)
l2(2)	- L2 - Reduced power management state (for G.992.3, G.992.4, and G.992.5)
l3(3)	- L3 - Low power management state

o Adsl2ConfPmsForce:

Attributes with this syntax are configuration parameters that reference the desired power management state for the ADSL/ADSL2 or ADSL2+ link:

l3toL0 (1)	- Perform a transition from L3 to L0 (Full power management state)
l0toL2 (2)	- Perform a transition from L0 to L2 (Reduced power management state)
l0orL2toL3 (3)	- Perform a transition into L3 (Low power management state)

o Adsl2LConfProfPmMode:

Attributes with this syntax are configuration parameters that reference the power modes/states into which the ATU-C or ATU-R may autonomously transit.

The is a BITS structure that allows controlling the following transit options:

- allowTransitionsToIdle (0) - xTU may autonomously transit to idle (L3) state.
- allowTransitionsToLowPower (1)- xTU may autonomously transit to low-power (L2) state.

o Adsl2LineLdsf:

Attributes with this syntax are configuration parameters that control the Loop Diagnostic mode for the ADSL/ADSL2 or ADSL2+ link:

- inhibit (0) - Inhibit Loop Diagnostic mode
- force (1) - Force/Initiate Loop Diagnostic mode

o Adsl2LdsfResult:

Attributes with this syntax are status parameters that report the result of the recent Loop Diagnostic mode issued for the ADSL/ADSL2 or ADSL2+ link:

- none (1) - The default value in case LDSF was never requested for the associated line.
- success (2) - The recent command completed successfully.
- inProgress (3) - The Loop Diagnostics process is in progress.
- unsupported (4) - The NE or the line card doesn't support LDSF.
- cannotRun (5) - The NE cannot initiate the command, due to a non specific reason.
- aborted (6) - The Loop Diagnostics process aborted.
- failed (7) - The Loop Diagnostics process failed.
- illegalMode (8) - The NE cannot initiate the command, due to the specific mode of the relevant line.
- adminUp (9) - The NE cannot initiate the command, as the relevant line is administratively 'Up'.
- tableFull (10) - The NE cannot initiate the command, due to reaching the maximum number of rows in the results table.
- noResources (11) - The NE cannot initiate the command, due to lack of internal memory resources.
- inhibit (0) - Inhibit Loop Diagnostic mode
- force (1) - Force/Initiate Loop Diagnostic mode

o Adsl2SymbolProtection:

Attributes with this syntax are configuration parameters that reference the minimum length impulse noise protection (INP) in terms of number of symbols:

noProtection (1)	- INP not required
halfSymbol (2)	- INP length = 1/2 symbol
singleSymbol (3)	- INP length = 1 symbol
twoSymbols (4)	- INP length = 2 symbols
threeSymbols (5)	- INP length = 3 symbols
fourSymbols (6)	- INP length = 4 symbols
fiveSymbols (7)	- INP length = 5 symbols
sixSymbols (8)	- INP length = 6 symbols
sevenSymbols (9)	- INP length = 7 symbols
eightSymbols (10)	- INP length = 8 symbols
nineSymbols (11)	- INP length = 9 symbols
tenSymbols (12)	- INP length = 10 symbols
elevenSymbols (13)	- INP length = 11 symbols
twelveSymbols (14)	- INP length = 12 symbols
thirteenSymbols (15)	- INP length = 13 symbols
fourteenSymbols (16)	- INP length = 14 symbols
fifteenSymbols (17)	- INP length = 15 symbols
sixteenSymbols (18)	- INP length = 16 symbols

o Adsl2MaxBer:

Attributes with this syntax are configuration parameters that reference the maximum Bit Error Rate (BER):

eminus3 (1)	- Maximum BER= E^{-3}
eminus5 (2)	- Maximum BER= E^{-5}
eminus7 (3)	- Maximum BER= E^{-7}

o Adsl2ScMaskDs:

Attributes with this syntax are configuration parameters that reference the downstream sub-carrier mask. It is a bitmap of up to 512 bits.

o Adsl2ScMaskUs:

Attributes with this syntax are configuration parameters that reference the upstream sub-carrier mask. It is a bitmap of up to 64 bits.

- o Adsl2RfiDs:

Attributes with this syntax are configuration parameters that reference the downstream notch filters. It is a bitmap of up to 512 bits.

- o Adsl2PsdMaskDs:

Attributes with this syntax are configuration parameters that reference the downstream power spectrum density (PSD) mask. It is a structure of up to 32 breakpoints, where each breakpoint occupies 3 octets.

- o Adsl2PsdMaskUs:

Attributes with this syntax are configuration parameters that reference the upstream power spectrum density (PSD) mask. It is a structure of up to 16 breakpoints, where each breakpoint occupies 3 octets.

- o Adsl2LastTransmittedState:

Attributes with this syntax reference the list of initialization states for ADSL/ADSL2 or ADSL2+ modems. The list of states for CO side modems is different from the list of states for the CPE side modems.

Specified as an enumeration type, there are currently few dozens of states in the list per each unit side (i.e. CO and CPE).

- o Adsl2LineStatus:

Attributes with this syntax are status parameters that reflect the failure status for a given endpoint of ADSL/ADSL2 or ADSL2+ link.

The is a BITS structure that can report the following failures:

- noDefect (0) - This bit position positively reports that no defect or failure exist.
- lossOfFraming (1) - Loss of frame synchronization
- lossOfSignal (2) - Loss of signal
- lossOfPower (3) - Loss of power. Usually this failure may be reported for CPE units only
- initFailure (4) - Recent initialization process failed.

- o Adsl2ChAtmStatus:

Attributes with this syntax are status parameters that reflect the

failure status for Transmission Convergence (TC) layer of a given ATM interface (data path over an ADSL/ADSL2 or ADSL2+ link).

The is a BITS structure that can report the following failures:

- noDefect (0) - This bit position positively reports that no defect or failure exist.
- noCellDelineation (1) - Cell delineation never acquired on the associated ATM data path since the link successfully initialized.
- lossOfCellDelineation (2) - Loss of cell delineation on the associated ATM data path

o Adsl2ChPtmStatus:

Attributes with this syntax are status parameters that reflect the failure status for a given PTM interface (packet data path over an ADSL/ADSL2 or ADSL2+ link).

The is a BITS structure that can report the following failures:

- noDefect (0) - This bit position positively reports that no defect or failure exist.
- outOfSync (1) - Out of synchronization.

2.4. Structure

The MIB module is structured into following MIB groups:

o Line Configuration, Maintenance and Status Group:

This group supports MIB objects for configuring parameters for the ADSL/ADSL2 or ADSL2+ line and retrieving line status information. It also supports MIB objects for configuring a requested power state or initiating a Dual Ended Line Test (DELT) process in the ADSL/ADSL2 or ADSL2+ line. It contains the following table:

- adsl2LineTable

o Channel Status Group:

This group supports MIB objects for retrieving channel layer status information. It contains the following table:

- adsl2ChannelStatusTable

- o Subcarrier Status Group:

This group supports MIB objects for retrieving the sub- carrier layer status information, mostly collected by a Dual Ended Line Test (DELT) process. It contains the following table:

- adsl2SCStatusTable

- o Unit Inventory Group:

This group supports MIB objects for retrieving Unit inventory information about units in ADSL/ADSL2 or ADSL2+ lines via the EOC. It contains the following table:

- adsl2LineInventoryTable

- o Current Performance Group:

This group supports MIB objects that provide the current performance information relating to ADSL/ADSL2 and ADSL2+ line, units and channels level. It contains the following tables:

- adsl2PMLineCurrTable
- adsl2PMrLineCurrInitTable
- adsl2PMChCurrTable

- o 15-Minute Interval Performance Group:

This group supports MIB objects that provide historic performance information relating to ADSL/ADSL2 and ADSL2+ line, units and channels level in 15-minute intervals. It contains the following tables:

- adsl2PMLineHist15MinTable
- adsl2PMLineInitHist15MinTable
- adsl2PMChHist15MinTable

- o 1-Day Interval Performance Group:

This group supports MIB objects that provide historic performance information relating to ADSL/ADSL2 and ADSL2+ line, units and channels level in 1-day intervals. It contains the following tables:

- adsl2PMLineHist1DayTable
- adsl2PMLineInitHist1DayTable
- adsl2PMChHist1DTable

o Configuration Template and Profile Group:

This group supports MIB objects for defining configuration profiles for ADSL/ADSL2 and ADSL2+ lines and channels, as well as configuration templates that each is a selection of line configuration profile and one or more channel configuration profiles. It contains the following tables:

- adsl2LineConfTemplateTable
- adsl2LineConfProfTable
- adsl2LineConfProfModeSpecTable
- adsl2ChConfProfileTable

o Alarm Configuration Template and Profile Group:

This group supports MIB objects for defining alarm profiles for ADSL/ADSL2 and ADSL2+ lines and channels, as well as alarm templates that each is a selection of line alarm profile and one or more channel alarm profiles. It contains the following tables:

- adsl2LineAlarmConfTemplateTable
- adsl2LineAlarmConfProfileTable
- adsl2ChAlarmConfProfileTable

o Notifications Group:

This group defines the notifications supported for ADSL/ADSL2 and ADSL2+ lines:

- adsl2LinePerfFECSThreshAtuc
- adsl2LinePerfFECSThreshAtur
- adsl2LinePerfESThreshAtuc
- adsl2LinePerfESThreshAtur
- adsl2LinePerfSESThreshAtuc
- adsl2LinePerfSESThreshAtur
- adsl2LinePerfLOSSThreshAtuc
- adsl2LinePerfLOSSThreshAtur
- adsl2LinePerfUASThreshAtuc
- adsl2LinePerfUASThreshAtur
- adsl2LinePerfCodingViolationsThreshAtuc
- adsl2LinePerfCodingViolationsThreshAtur
- adsl2LinePerfCorrectedThreshAtuc
- adsl2LinePerfCorrectedThreshAtur
- adsl2LinePerfFailedFullInitThresh
- adsl2LinePerfFailedShortInitThresh
- adsl2LineStatusChangeAtuc
- adsl2LineStatusChangeAtur

2.5. Line Topology

An ADSL/ADSL2 and ADSL2+ Line consists of two units - atuc (the central termination unit) and an atur (the remote termination unit), consisting of up to 4 channels, each carries an independent information flow, as shown in the figure below.

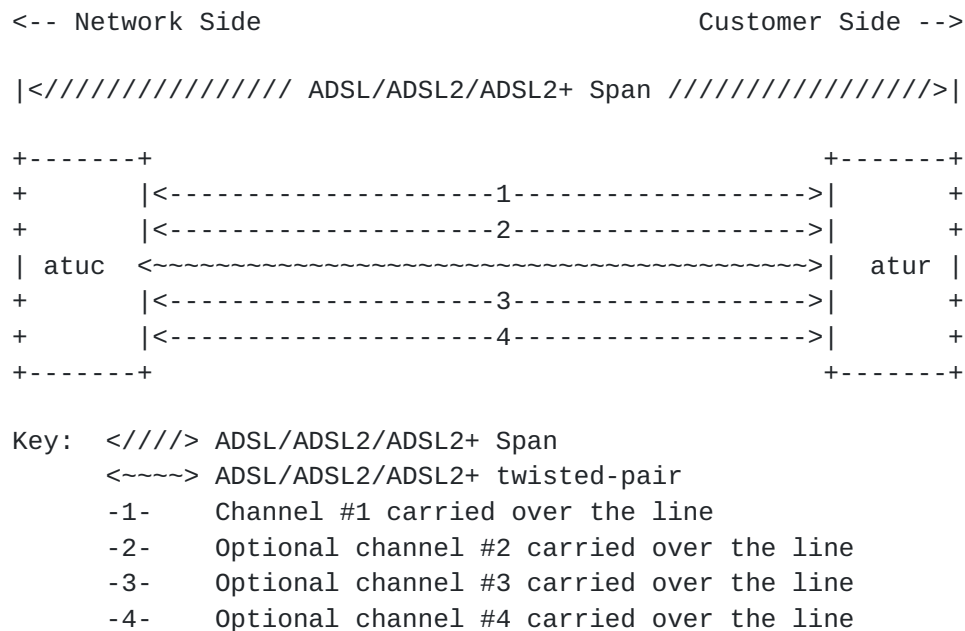


Figure 2: General topology for an ADSL/ADSL2/ADSL2+ Line

2.6. Counters, Interval Buckets and Thresholds

2.6.1. Counters Managed

There are various types of counters specified in this MIB. Each counter refers either to the whole ADSL/ADSL2/ADSL2+ line, to one of the xtu entities or to one of the bearer channels.

o On the whole line level

For full initializations, failed full initializations, short initializations, and for failed short initializations there are event counters, current 15-minute and 0 to 96 15-minute history bucket(s) of "interval-counters", as well as current and 0 to 30 previous 1-day interval-counter(s). Each current 15-minute "failed" event bucket has an associated threshold notification.

- o On the xtu level

For the LOS Seconds, ES, SES, FEC seconds, and UAS, there are event counters, current 15-minute and 0 to 96 15-minute history bucket(s) of "interval-counters", as well as current and 0 to 30 previous 1-day interval-counter(s). Each current 15-minute event bucket has an associated threshold notification.

- o On the bearer channel level

For the coding violations (CRC anomalies), and corrected blocks (i.e., FEC events) there are event counters, current 15-minute and 0 to 96 15-minute history bucket(s) of "interval-counters", as well as current and 0 to 30 previous 1-day interval-counter(s). Each current 15-minute event bucket has an associated threshold notification.

2.6.2. Minimum Number Of Buckets

Although it is possible to support up to 96 15-minute history buckets of "interval-counters", systems implementing this MIB module SHOULD practically support at least 16 buckets, as specified in ITU-T G.997.1, paragraph 7.2.7.2.

Similarly, it is possible to support up to 30 previous 1-day "interval-counters" but systems implementing this MIB module SHOULD support at least 1 previous day buckets.

2.6.3. Interval Buckets Initialization

There is no requirement for an agent to ensure a fixed relationship between the start of a fifteen minute interval 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 xtu is reinitialized, only when the agent is reset or reinitialized (or under specific request outside the scope of this MIB module).

2.6.4. Interval Buckets Validity

As in [RFC 3593](#) [[RFC3593](#)] and [RFC 2662](#) [[RFC2662](#)], in case the data for an interval is suspect or known to be invalid, the agent MUST report the interval as invalid. If the current 15-minute event bucket is determined to be invalid, the element management system SHOULD ignore its content and the agent MUST NOT generate notifications based upon the value of the event bucket.

A valid 15-minute event bucket SHOULD usually count the events for exactly 15 minutes. Similarly, a valid 1-day event bucket SHOULD usually count the events for exactly 24 hours. However, the following scenarios are exceptional:

- 1) For implementations that align the fifteen minute intervals with quarter hours and the 1-day intervals with start of a day the management system may still start the PM process not aligned with the wall clock. Such a management system may wish to retrieve even partial information for the first event buckets, rather than declaring them all as invalid.
- 2) For an event bucket that suffered relatively short outages the management system may wish to retrieve the available PM outcomes, rather than declaring the whole event bucket as invalid. This is more important for 1-day event buckets.
- 3) An event bucket may be shorter or longer than the formal duration in case a clock adjustment has been performed during the interval.

This MIB allows supporting the exceptional scenarios described above by reporting the actual Monitoring Time of a monitoring interval. This parameter is relevant only for Valid intervals but it useful for those exceptional scenarios:

- a) The management system MAY still declare a partial PM interval as Valid and report the actual number of seconds the interval lasted.
- b) In case the interval was shortened or extended due to clock corrections the management system SHOULD report the actual number of seconds the interval lasted, beside reporting that the interval is Valid.

2.7. Profiles

As a managed node can handle a large number of xtUs, (e.g., hundreds or perhaps thousands of lines), provisioning every parameter on every xtU may become burdensome. Moreover, most lines are provisioned identically with the same set of parameters. To simplify the provisioning process, this MIB module makes use of profiles and templates.

A configuration profile is a set of parameters that can be shared by multiple entities. There are configuration profiles to address the line level provisioning and another type of profiles that addresses the channel level provisioning parameters.

A configuration template is actually a profile-of-profiles. That is, a template is a selection of one line configuration profile and one or more channel configuration profiles. A template provides the complete configuration of a line. Same configuration can be shared by multiple lines.

Similarly to the configuration profiles and templates this MIB module makes use of templates and profiles for specifying the alarm thresholds associated with performance parameters. This allows provisioning multiple lines identically in respect of generating threshold crossing notifications.

The following paragraphs describe templates and profiles used in this MIB module

2.7.1. Configuration Profiles And Templates

- o Line Configuration Profiles - Line configuration profiles contain parameters for configuring the low layer of ADSL/ADSL2 and ADSL2+ lines. They are defined in the `adsl2LineConfProfTable`.

The line configuration includes issues such as the specific ADSL/ADSL2 or ADSL2+ modes to enable on the respective line, power spectrum parameters, rate adaptation criteria, and SNR margin related parameters. A subset of the line configuration parameters depends upon the specific ADSL Mode allowed I.e. Does the profile allow ADSL, ADSL2 and/or ADSL2+, as well as what annex/annexes of the standard are allowed. This is the reason a line profile MUST include one or more mode-specific extensions.

- o Channel Configuration Profiles - Channel configuration profiles contain parameters for configuring bearer channels over the ADSL/ADSL2 and ADSL2+ lines. They are sometimes considered as the service layer configuration of the ADSL/ADSL2 and ADSL2+ lines. They are defined in the `adsl2ChConfProfTable`.

The channel configuration includes issues such as the desired minimum and maximum rate on each traffic flow direction and impulse noise protection parameters.

- o Line Configuration Templates - Line configuration templates allow combining line configuration profiles and channel configuration profiles to a comprehensive configuration of the ADSL/ADSL2 and ADSL2+ line. They are defined in the `adsl2LineConfTemplateTable`.

The line configuration template includes one index (OID) of a line configuration profile and one to four indexes of channel configuration profiles. The template also addresses the issue of distributing the excess available data rate on each traffic flow direction (i.e., the data rate left after each channel is allocated a data rate to satisfy its minimum requested data rate) among the various channels.

2.7.2. Alarm Configuration Profiles And Templates

- o Line Alarm Configuration Profiles - Line level Alarm configuration** profiles contain the threshold values for Performance Monitoring (PM) parameters counted either on the whole line level or on a xtu level. Thresholds are required only for failures and anomalies. E.g., there are thresholds for failed initializations and LOS seconds but not for the aggregate number of full initializations. These profiles are defined in the `adsl2LineAlarmConfProfTable`.
- o Channel Alarm Configuration Profiles - Channel level Alarm** configuration profiles contain the threshold values for PM parameters counted on a bearer channel level. Thresholds are defined for two types of anomalies: corrected blocks and coding violations. These profiles are defined in the `adsl2ChAlarmConfProfTable`.
- o Line Alarm Configuration Templates - Line Alarm configuration** templates allow combining line level alarm configuration profiles and channel level alarm configuration profiles to a comprehensive configuration of the PM thresholds for ADSL/ADSL2 and ADSL2+ line. They are defined in the `adsl2LineAlarmConfTemplateTable`.

The line alarm configuration template includes one index (OID) of a line level alarm configuration profile and one to four indexes of channel level alarm configuration profiles.

2.7.3. Managing Profiles And Templates

The index value for each profile and template is a locally-unique administratively assigned name having the textual convention 'SnmpAdminString' ([RFC 3411](#) [[RFC3411](#)]).

One or more lines may be configured to share parameters of a single configuration template (e.g., `adsl2LConfTempTemplateName = 'silver'`) by setting its `adsl2LCnfgLineTemplate` objects to the value of this template.

One or more lines may be configured to share parameters of a single Alarm configuration template (e.g., `adsl2LAlarmConfTempTemplateName = 'silver'`) by setting its `adsl2LCnfgAlarmTemplate` objects to the value of this template.

Before a template can be deleted or taken out of service it **MUST** be first unreferenced from all associated lines. Implementations **MAY** also reject template modification while it is associated with any line.

Before a profile can be deleted or taken out of service it **MUST** be

first unreferenced from all associated templates. Implementations MAY also reject profile modification while it is referenced by any template.

Implementations MUST provide a default profile whose name is 'DEFVAL' for each profile and template type. The values of the associated parameters will be vendor specific unless otherwise indicated in this document. Before a line's templates have been set, these templates will be automatically used by setting `adsl2LCnfgLineTemplate` and `adsl2LCnfgAlarmTemplate` to 'DEFVAL' where appropriate. This default profile name, 'DEFVAL', is considered reserved in the context of profiles and templates defined in this MIB module.

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

If the implementation allows modifying a profile or template while it is associated with a line, then such changes MUST take effect immediately. These changes MAY result in a restart (hard reset or soft restart) of the units on the line.

2.8. Notifications

The ability to generate the SNMP notifications `coldStart`/`warmStart` (per [RFC3418]) which are per agent (e.g., per Digital Subscriber Line Access Multiplexer, or DSLAM, in such a device), and `linkUp`/`linkDown` (per [RFC2863]) which are per interface (i.e., ADSL/ADSL2 or ADSL2+ line) is required.

A `linkDown` notification MAY be generated whenever any of ES, SES, CRC Anomaly, LOS, LOF, or UAS event occurs. The corresponding `linkUp` notification MAY be sent when all link failure conditions are cleared.

The notifications defined in this MIB module are for status change (e.g., initialization failure) and for the threshold crossings associated with the following events: Full initialization failures, short initialization failures, ES, SES, FEC Seconds, LOS Seconds, UAS, FEC Seconds, FEC events and CRC anomalies. Each threshold has its own enable/threshold value. When that value is 0, the notification is disabled.

The `adsl2LStatusStatusAtur` and `adsl2LStatusStatusAtuc` are bitmask representing all outstanding error conditions associated with the `AtuR` and `AtuC` (respectively). Note that since the `AtuR` status is obtained via the EOC, this information may be unavailable in case the `AtuR` is 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 those two status objects are defined.

Note that there are other status parameters that refer to the AtuR (e.g., downstream line attenuation). Those parameters also depend on the availability of EOC between the central office xtu and the remote xtu.

A threshold notification occurs whenever the corresponding current 15-minute interval error counter becomes equal to, or exceeds the threshold value. Only one notification SHOULD be sent per interval per interface. Since the current 15-minute counter is reset to 0 every 15 minutes, and 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.

Notifications, other than the threshold notifications listed above, SHOULD be rate limited (throttled) such that there is an implementation-specific gap between the generation of consecutive notification of the same event. When notifications are rate limited, they are dropped and not queued for sending at a future time. This is intended to be a general rate-limiting statement for notifications that have no explicit rate limiting assertions in this document otherwise.

Note that the Network Management System, or NMS, may receive a linkDown notification, as well, if enabled (via `ifLinkUpDownTrapEnable` [[RFC2863](#)]). 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.

3. Definitions

NGDSL-LINE-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-IDENTITY,
OBJECT-TYPE,
TimeTicks,
transmission,
Unsigned32,

snmpModules,
NOTIFICATION-TYPE,
Integer32
FROM SNMPv2-SMI

ifIndex
FROM IF-MIB

TruthValue,
RowStatus,
TEXTUAL-CONVENTION
FROM SNMPv2-TC

SnmpAdminString
FROM SNMP-FRAMEWORK-MIB

MODULE-COMPLIANCE,
OBJECT-GROUP,
NOTIFICATION-GROUP
FROM SNMPv2-CONF;

ngdslMIB MODULE-IDENTITY

LAST-UPDATED "200509010000Z" -- September 1, 2005
ORGANIZATION "ADSLMIB Working Group"
CONTACT-INFO "WG-email: adslmib@ietf.org
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"

DESCRIPTION

"

This document defines a Management Information Base (MIB) module for use with network management protocols in the Internet community for the purpose of managing ADSL, ADSL2, and ADSL2+ lines. The MIB module described in [RFC 2662](#) [[RFC2662](#)] describes objects used for managing Asymmetric Bit-Rate DSL (ADSL) interfaces per [[T1E1.413](#)], [[G.992.1](#)] and [[G.992.2](#)]. These object descriptions are based upon the specifications for the ADSL Embedded Operations Channel (EOC) as defined in American National Standards Institute (ANSI) T1E1.413/1995 [[T1E1.413](#)] and International Telecommunication Union (ITU-T) G.992.1 [[G.992.1](#)] and G.992.2 [[G.992.2](#)].

This document does not obsolete [RFC 2662](#) [[RFC2662](#)] but rather provides a more comprehensive management model that includes also the ADSL2 and ADSL2+ technologies per G.992.3, G.992.4 and G.992.5 ([[G.992.3](#)], [[G.992.4](#)] and [[G.992.5](#)] respectively). In addition, objects have been added to improve the management of ADSL, ADSL2, and ADSL2+ lines.

Additionally the management framework for New Generation ADSL lines specified by the Digital Subscriber Line Forum (DSL Forum) has been taken into consideration [TR-90]. That framework is based on ITU-T G.997.1 standard [G.997.1].

Note that the revised ITU-T G.997.1 standard refers also to next generation of VDSL technology, known as VDSL2, per ITU-T G.993.2 [G.993.2]. However, managing VDSL2 lines is currently beyond the scope of this document.

The MIB module is located in the MIB tree under MIB 2 transmission, as discussed in the MIB-2 Integration (RFC 2863 [RFC2863]) section of this document.

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```
-- RFC Ed.: replace XXXX with assigned number & remove this note
REVISION "200509010000Z" -- September 1, 2005
DESCRIPTION "Initial version, published as RFC XXXX."
-- RFC Ed.: replace XX with assigned number & remove this note
::= { transmission xxx }
-- RFC Ed.: we suggest to put it under { transmission 230 } because
-- this is the first available number.
```

```
adsl2          OBJECT IDENTIFIER ::= { ngdslMIB 1 }
-----
adsl2Line      OBJECT IDENTIFIER ::= { adsl2 1 }
adsl2Status    OBJECT IDENTIFIER ::= { adsl2 2 }
adsl2Inventory OBJECT IDENTIFIER ::= { adsl2 3 }
adsl2PM        OBJECT IDENTIFIER ::= { adsl2 4 }
adsl2Profile   OBJECT IDENTIFIER ::= { adsl2 5 }
adsl2Scalar    OBJECT IDENTIFIER ::= { adsl2 6 }
adsl2Notifications OBJECT IDENTIFIER ::= { adsl2 7 }
adsl2Conformance OBJECT IDENTIFIER ::= { adsl2 8 }
-----
adsl2PMLine    OBJECT IDENTIFIER ::= { adsl2PM 1 }
adsl2PMChannel OBJECT IDENTIFIER ::= { adsl2PM 2 }
-----
adsl2ProfileLine OBJECT IDENTIFIER ::= { adsl2Profile 1 }
adsl2ProfileChannel OBJECT IDENTIFIER ::= { adsl2Profile 2 }
adsl2ProfileAlarmConf OBJECT IDENTIFIER ::= { adsl2Profile 3 }
-----
adsl2ScalarSC  OBJECT IDENTIFIER ::= { adsl2Scalar 1 }
```



```
-----

-----
--          Textual Conventions          --
-----

Adsl2Unit ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Identifies a transceiver as being either atuc or
        atur.  An ADSL line consists of two transceivers, an atuc
        and an atur.  Attributes with this syntax reference the two
        sides of a line.  Specified as an INTEGER, the two values
        are:
            atuc(1)  -- central site transceiver
            atur(2)  -- remote site transceiver"

    SYNTAX      INTEGER {
                    atuc(1),
                    atur(2)
                }

Adsl2Direction ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Identifies the direction of a band as being
        either upstream or downstream.  Specified as an INTEGER,
        the two values are:
            upstream(1)
            downstream(2)"

    SYNTAX      INTEGER {
                    upstream(1),
                    downstream(2)
                }

Adsl2TransmissionModeType ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "A set of ADSL2 line transmission modes, with one bit
        per mode.  The notes (F) and (L) denote Full-Rate
        and Lite/splitterless respectively:
            Bit 00 : Regional Std. (ANSI T1.413) (F)
            Bit 01 : Regional Std. (ETSI DTS/TM06006) (F)
            Bit 02 : G.992.1 POTS non-overlapped (F)
            Bit 03 : G.992.1 POTS overlapped (F)
            Bit 04 : G.992.1 ISDN non-overlapped (F)
```



```

Bit 05 : G.992.1 ISDN overlapped (F)
Bit 06 : G.992.1 TCM-ISDN non-overlapped (F)
Bit 07 : G.992.1 TCM-ISDN overlapped (F)
Bit 08 : G.992.2 POTS non-overlapped (L)
Bit 09 : G.992.2 POTS overlapped (L)
Bit 10 : G.992.2 with TCM-ISDN non-overlapped (L)
Bit 11 : G.992.2 with TCM-ISDN overlapped (L)
Bit 12 : G.992.1 TCM-ISDN symmetric (F) --- not in G.997.1
Bit 13-17: Reserved
Bit 18 : G.992.3 POTS non-overlapped (F)
Bit 19 : G.992.3 POTS overlapped (F)
Bit 20 : G.992.3 ISDN non-overlapped (F)
Bit 21 : G.992.3 ISDN overlapped (F)
Bit 22-23: Reserved
Bit 24 : G.992.4 POTS non-overlapped (L)
Bit 25 : G.992.4 POTS overlapped (L)
Bit 26-27: Reserved
Bit 28 : G.992.3 Annex I All-Digital non-overlapped (F)
Bit 29 : G.992.3 Annex I All-Digital overlapped (F)
Bit 30 : G.992.3 Annex J All-Digital non-overlapped (F)
Bit 31 : G.992.3 Annex J All-Digital overlapped (F)
Bit 32 : G.992.4 Annex I All-Digital non-overlapped (L)
Bit 33 : G.992.4 Annex I All-Digital overlapped (L)
Bit 34 : G.992.3 Annex L POTS non-overlapped, mode 1,
        wide U/S (F)
Bit 35 : G.992.3 Annex L POTS non-overlapped, mode 2,
        narrow U/S(F)
Bit 36 : G.992.3 Annex L POTS overlapped, mode 3,
        wide U/S (F)
Bit 37 : G.992.3 Annex L POTS overlapped, mode 4,
        narrow U/S (F)
Bit 38 : G.992.3 Annex M POTS non-overlapped (F)
Bit 39 : G.992.3 Annex M POTS overlapped (F)
Bit 40 : G.992.5 POTS non-overlapped (F)
Bit 41 : G.992.5 POTS overlapped (F)
Bit 42 : G.992.5 ISDN non-overlapped (F)
Bit 43 : G.992.5 ISDN overlapped (F)
Bit 44-45: Reserved
Bit 46 : G.992.5 Annex I All-Digital non-overlapped (F)
Bit 47 : G.992.5 Annex I All-Digital overlapped (F)
Bit 48 : G.992.5 Annex J All-Digital non-overlapped (F)
Bit 49 : G.992.5 Annex J All-Digital overlapped (F)
Bit 50 : G.992.5 Annex M POTS non-overlapped (F)
Bit 51 : G.992.5 Annex M POTS overlapped (F)
Bit 52-55: Reserved"

```

```
SYNTAX      BITS {
              ansit1413(0),
              etsi(1),
```



```
q9921PotsNonOverlapped(2),
q9921PotsOverlapped(3),
q9921IsdnNonOverlapped(4),
q9921isdnOverlapped(5),
q9921tcmIsdnNonOverlapped(6),
q9921tcmIsdnOverlapped(7),
q9922potsNonOverlapped(8),
q9922potsOverlapped(9),
q9922tcmIsdnNonOverlapped(10),
q9922tcmIsdnOverlapped(11),
q9921tcmIsdnSymmetric(12),
reserved1(13),
reserved2(14),
reserved3(15),
reserved4(16),
reserved5(17),
q9923PotsNonOverlapped(18),
q9923PotsOverlapped(19),
q9923IsdnNonOverlapped(20),
q9923isdnOverlapped(21),
reserved6(22),
reserved7(23),
q9924potsNonOverlapped(24),
q9924potsOverlapped(25),
reserved8(26),
reserved9(27),
q9923AnnexIAAllDigNonOverlapped(28),
q9923AnnexIAAllDigOverlapped(29),
q9923AnnexJAllDigNonOverlapped(30),
q9923AnnexJAllDigOverlapped(31),
q9924AnnexIAAllDigNonOverlapped(32),
q9924AnnexIAAllDigOverlapped(33),
q9923AnnexLMode1NonOverlapped(34),
q9923AnnexLMode2NonOverlapped(35),
q9923AnnexLMode3Overlapped(36),
q9923AnnexLMode4Overlapped(37),
q9923AnnexMPotsNonOverlapped(38),
q9923AnnexMPotsOverlapped(39),
q9925PotsNonOverlapped(40),
q9925PotsOverlapped(41),
q9925IsdnNonOverlapped(42),
q9925isdnOverlapped(43),
reserved10(44),
reserved11(45),
q9925AnnexIAAllDigNonOverlapped(46),
q9925AnnexIAAllDigOverlapped(47),
q9925AnnexJAllDigNonOverlapped(48),
q9925AnnexJAllDigOverlapped(49),
```



```
        q9925AnnexMPotsNonOverlapped(50),
        q9925AnnexMPotsOverlapped(51),
        reserved12(52),
        reserved13(53),
        reserved14(54),
        reserved15(55)
    }
```

Adsl2RaMode ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

" Specifies the rate adaptation behavior for the line.

The three possible behaviors are:

- manual (1) - No Rate-Adaptation. The initialization process attempts to synchronize to a specified rate.
- rainit (2) - Rate-Adaptation during initialization process only, which attempts to synchronize to a rate between minimum and maximum specified values.
- dynamicRa (3)- Dynamic Rate-Adaptation during initialization process as well as during SHOWTIME"

SYNTAX INTEGER {
 manual(1),
 raInit(2),
 dynamicRa(3)
}

Adsl2InitResult ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Specifies the result of full initialization attempt, the six possible result values are:

- noFail (0) - Successful initialization
- configError (1) - Configuration failure
- configNotFeasible (2) - Configuration details not supported
- commFail (3) - Communication failure
- noPeerAtu (4) - Peer ATU not detected
- otherCause (5) - Other initialization failure reason"

SYNTAX INTEGER {
 noFail(0),
 configError(1),
 configNotFeasible(2),
 commFail(3),
 noPeerAtu(4),
 otherCause(5)
}

Adsl2OperationModes ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

" The ADSL2 management model specified includes an ADSL Mode attribute which identifies an instance of ADSL Mode-Specific PSD Configuration object in the ADSL Line Profile. The following classes of ADSL operating mode are defined. "

SYNTAX INTEGER {
 defMode (1),
 adsl (2),
 adsl2Pots (3),
 adsl2Isdn (4),
 adsl2PlusPots (5),
 adsl2PlusIsdn (6),
 adsl2ReachExtended (7)
}

Adsl2PowerMngState ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Attributes with this syntax uniquely identify each power management state defined for the ADSL/ADSL2 or ADSL2+ link.

The possible values are:

- 10(0) - L0 - Full power management state
- 11(1) - L1 - Reduced power management state (for G.992.2)
- 12(2) - L2 - Reduced power management state (for G.992.3, G.992.4, and G.992.5)
- 13(3) - L3 - Low power management state"

SYNTAX INTEGER {
 10(0),
 11(1),
 12(2),
 13(3)
}

Adsl2ConfPmsForce ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Attributes with this syntax are configuration parameters that reference the desired power management state for the ADSL/ADSL2 or ADSL2+ link:

- 13toL0 (1) - Perform a transition from L3 to L0 (Full power management state)
- 10toL2 (2) - Perform a transition from L0 to L2 (Reduced power management state)
- 10orL2toL3 (3) - Perform a transition into L3 (Low power management state)

power management state)"

```
SYNTAX      INTEGER {  
                l3toL0 (0),  
                l0toL2 (2),  
                l0orL2toL3 (3)  
            }
```

Adsl2LConfProfPmMode ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Attributes with this syntax are configuration parameters that reference the power modes/states into which the ATU-C or ATU-R may autonomously transit.

It is a BITS structure that allows controlling the following transit options:

allowTransitionsToIdle (0) - xTU may autonomously transit to idle (L3) state.

allowTransitionsToLowPower (1)- xTU may autonomously transit to low-power (L2) state."

```
SYNTAX BITS {  
    allowTransitionsToIdle(0),  
    allowTransitionsToLowPower(1)  
}
```

Adsl2LineLdsf ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Attributes with this syntax are configuration parameters that control the Loop Diagnostic mode for the ADSL/ADSL2 or ADSL2+ link. The possible values are:

inhibit (0) - Inhibit Loop Diagnostic mode

force (1) - Force/Initiate Loop Diagnostic mode"

```
SYNTAX INTEGER {  
    inhibit(0),  
    force(1)  
}
```

Adsl2LdsfResult ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Possible failure reasons associated with performing

Dual Ended Loop Test (DELT) on a DSL line.

Possible values are:

- none (1) - The default value in case LDSF was never requested for the associated line.
- success (2) - The recent command completed successfully.
- inProgress (3) - The Loop Diagnostics process is in progress.
- unsupported (4) - The NE or the line card doesn't support LDSF.
- cannotRun (5) - The NE cannot initiate the command, due to a non specific reason.
- aborted (6) - The Loop Diagnostics process aborted.
- failed (7) - The Loop Diagnostics process failed.
- illegalMode (8) - The NE cannot initiate the command, due to the specific mode of the relevant line.
- adminUp (9) - The NE cannot initiate the command, as the relevant line is administratively 'Up'.
- tableFull (10) - The NE cannot initiate the command, due to reaching the maximum number of rows in the results table.
- noResources (11) - The NE cannot initiate the command, due to lack of internal memory resources."

```
SYNTAX INTEGER {  
    none (1),  
    success (2),  
    inProgress (3),  
    unsupported (4),  
    cannotRun (5),  
    aborted (6),  
    failed (7),  
    illegalMode (8),  
    adminUp (9),  
    tableFull (10),  
    noResources (11)  
}
```

Adsl2SymbolProtection ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Attributes with this syntax are configuration parameters that reference the minimum length impulse noise protection (INP) in terms of number of symbols. The possible values are: noProtection (i.e., INP not required), halfSymbol (i.e., INP length is 1/2 symbol) and 1-16 symbols in steps of 1 symbol"


```
SYNTAX      INTEGER {
    noProtection (1),
    halfSymbol (2),
    singleSymbol (3),
    twoSymbols (4),
    threeSymbols (5),
    fourSymbols (6),
    fiveSymbols (7),
    sixSymbols (8),
    sevenSymbols (9),
    eightSymbols (10),
    nineSymbols (11),
    tenSymbols (12),
    elevenSymbols (13),
    twelveSymbols (14),
    thirteenSymbols (15),
    fourteenSymbols (16),
    fifteenSymbols (17),
    sixteenSymbols (18)
}
```

Adsl2MaxBer ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Attributes with this syntax are configuration parameters
that reference the maximum Bit Error Rate (BER).
The possible values are:

eminus3 (1) - Maximum BER= E^{-3}
eminus5 (2) - Maximum BER= E^{-5}
eminus7 (3) - Maximum BER= E^{-7} "

```
SYNTAX      INTEGER {
    eminus3(1),
    eminus5(2),
    eminus7(3)
}
```

Adsl2ScMaskDs ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Each one of the 512 bits in this OCTET
STRING array represents the corresponding bin
in the downstream direction. A value of one
indicates that the bin is not in use."

```
SYNTAX      OCTET STRING (SIZE (0..64))
```

Adsl2ScMaskUs ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Each one of the 64 bits in this OCTET STRING array represents the corresponding bin in the downstream direction. A value of one indicates that the bin is not in use."

SYNTAX OCTET STRING (SIZE (0..8))

Adsl2RfiDs ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Each one of the 512 bits in this OCTET STRING array represents the corresponding bin in the downstream direction. A value of one indicates that the bin is part of a notch filter."

SYNTAX OCTET STRING (SIZE (0..64))

Adsl2PsdMaskDs ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This is a structure that represents up to 32 PSD Mask breakpoints. Each breakpoint occupies 3 octets: The first two octets hold the index of the sub-carrier associated with the breakpoint. The third octet holds the PSD reduction from 0 (0dBm/Hz) to 255 (-127.5 dBm/Hz) using units of 0.5dBm/Hz at the breakpoint. "

SYNTAX OCTET STRING (SIZE (0..96))

Adsl2PsdMaskUs ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This is a structure that represents up to 16 PSD Mask breakpoints. Each breakpoint occupies 3 octets: The first two octets hold the index of the sub-carrier associated with the breakpoint. The third octet holds the PSD reduction from 0 (0dBm/Hz) to 255 (-127.5 dBm/Hz) using units of 0.5dBm/Hz at the breakpoint. "

SYNTAX OCTET STRING (SIZE (0..48))

Adsl2LastTransmittedState ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This parameter represents the last successful transmitted initialization state in the last full


```
        initialization performed on the line."
SYNTAX      INTEGER {
    atucG9941(0),
    atucQuiet1(1),
    atucComb1(2),
    atucQuiet2(3),
    atucComb2(4),
    atucIcomb1(5),
    atucLineprob(6),
    atucQuiet3(7),
    atucComb3(8),
    atucIComb2(9),
    atucMsgfmt(10),
    atucMsgpcb(11),
    atucQuiet4(12),
    atucReverb1(13),
    atucTref1(14),
    atucReverb2(15),
    atucEct(16),
    atucReverb3(17),
    atucTref2(18),
    atucReverb4(19),
    atucSegue1(20),
    atucMsg1(21),
    atucReverb5(22),
    atucSegue2(23),
    atucMedley(24),
    atucExchmarker(25),
    atucMsg2(26),
    atucReverb6(27),
    atucSegue3(28),
    atucParams(29),
    atucReverb7(30),
    atucSegue4(31),
    atucShowtime(32),
    --
    aturG9941(100),
    aturQuiet1(101),
    aturComb1(102),
    aturQuiet2(103),
    aturComb2(104),
    aturIcomb1(105),
    aturLineprob(106),
    aturQuiet3(107),
    aturComb3(108),
    aturIcomb2(109),
    aturMsgfmt(110),
    aturMsgpcb(111),
```



```
    aturReverb1(112),
    aturQuiet4(113),
    aturReverb2(114),
    aturQuiet5(115),
    aturReverb3(116),
    aturEct(117),
    aturReverb4(118),
    aturSegue1(119),
    aturReverb5(120),
    aturSegue2(121),
    aturMsg1(122),
    aturMedley(123),
    aturExchmarker(124),
    aturMsg2(125),
    aturReverb6(126),
    aturSegue3(127),
    aturParams(128),
    aturReverb7(129),
    aturSegue4(130),
    aturShowtime(131)
}
```

Adsl2LineStatus ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Attributes with this syntax are status parameters that reflect the failure status for a given endpoint of ADSL/ADSL2 or ADSL2+ link.

This BITS structure can report the following failures:

noDefect (0)	- This bit position positively reports that no defect or failure exist.
lossOfFraming (1)	- Loss of frame synchronization
lossOfSignal (2)	- Loss of signal
lossOfPower (3)	- Loss of power. Usually this failure may be reported for CPE units only
initFailure (4)	- Recent initialization process failed."

SYNTAX BITS {

```
    noDefect(0),
    lossOfFraming(1),
    lossOfSignal(2),
    lossOfPower(3),
    initFailure(4)
}
```


Adsl2ChAtmStatus ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Attributes with this syntax are status parameters that reflect the failure status for Transmission Convergence (TC) layer of a given ATM interface (data path over an ADSL/ADSL2 or ADSL2+ link).

This BITS structure can report the following failures:

- noDefect (0) - This bit position positively reports that no defect or failure exist.
- noCellDelineation (1) - Cell delineation never acquired on the associated ATM data path since the link successfully initialized.
- lossOfCellDelineation (2) - Loss of cell delineation on the associated ATM data path"

SYNTAX BITS {

noDefect(0),
noCellDelineation(1),
lossOfCellDelineation(2)

}

Adsl2ChPtmStatus ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Attributes with this syntax are status parameters that reflect the failure status for a given PTM interface (packet data path over an ADSL/ADSL2 or ADSL2+ link).

This BITS structure can report the following failures:

- noDefect (0) - This bit position positively reports that no defect or failure exist.
- outOfSync (1) - Out of synchronization. "

SYNTAX BITS {

noDefect(0),
outOfSync(1)

}

```
-----  
--          adsl2LineTable          --  
-----
```

adsl2LineTable OBJECT-TYPE

SYNTAX SEQUENCE OF Adsl2LineEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2LineTable contains configuration, command and status parameters of the ADSL2 line.

The index of this table is an interface index where the interface has a ifType of adsl2(xx)."

::= { adsl2Line 1 }

adsl2LineEntry OBJECT-TYPE

SYNTAX Adsl2LineEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2LineTable contains configuration, commands and status parameters of the ADSL2 line"

INDEX { ifIndex }

::= { adsl2LineTable 1 }

Adsl2LineEntry ::=

SEQUENCE {

adsl2LineCnfgTemplate	SnmpAdminString,
adsl2LineAlarmCnfgTemplate	SnmpAdminString,
adsl2LineCmndConfPmsf	Adsl2ConfPmsForce,
adsl2LineCmndConfLdsf	Adsl2LineLdsf,
adsl2LineCmndConfLdsfFailReason	Adsl2LdsfResult,
adsl2LineCmndAutomodeColdStart	TruthValue,
adsl2LineStatusAtuTransSys	Adsl2TransmissionModeType,
adsl2LineStatusPwrMngState	Adsl2PowerMngState,
adsl2LineStatusInitResult	Adsl2InitResult,
adsl2LineStatusLastStateDs	Adsl2LastTransmittedState,
adsl2LineStatusLastStateUs	Adsl2LastTransmittedState,
adsl2LineStatusAtur	Adsl2LineStatus,
adsl2LineStatusAtuc	Adsl2LineStatus,
adsl2LineStatusLnAttenDs	Unsigned32,
adsl2LineStatusLnAttenUs	Unsigned32,
adsl2LineStatusSigAttenDs	Unsigned32,
adsl2LineStatusSigAttenUs	Unsigned32,
adsl2LineStatusSnrMarginDs	Integer32,
adsl2LineStatusSnrMarginUs	Integer32,
adsl2LineStatusAttainableRateDs	Unsigned32,
adsl2LineStatusAttainableRateUs	Unsigned32,
adsl2LineStatusActPsdDs	Integer32,
adsl2LineStatusActPsdUs	Integer32,
adsl2LineStatusActAtpdDs	Integer32,
adsl2LineStatusActAtpdUs	Integer32

}

adsl2LineCnfgTemplate OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(1..32))
MAX-ACCESS read-write
STATUS current
DESCRIPTION
 "The value of this object identifies the row in the ADSL2 Line
 Configuration Templates Table, (Adsl2ConfTemplatesTable),
 which applies for this ADSL2 line."
REFERENCE " DSL Forum TR-90, paragraph 5.1.1"
DEFVAL { "DEFVAL" }
::= { adsl2LineEntry 1 }

adsl2LineAlarmCnfgTemplate OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(1..32))
MAX-ACCESS read-write
STATUS current
DESCRIPTION
 "The value of this object identifies the row in the ADSL2 Line
 Alarm Configuration Template Table,
 (adsl2LineAlarmConfTemplateTable), which applies to this ADSL2
 line."
REFERENCE " DSL Forum TR-90, paragraph 5.1.1"
DEFVAL { "DEFVAL" }
::= { adsl2LineEntry 2 }

adsl2LineCmndConfPmsf OBJECT-TYPE

SYNTAX Adsl2ConfPmsForce
MAX-ACCESS read-write
STATUS current
DESCRIPTION
 "Power management state forced. Defines the line states to be
 forced by the near-end ATU on this line. The various possible
 values are:
 l3toL0 (0),
 l0toL2 (2),
 l0orL2toL3 (3)."
REFERENCE " ITU-T G.997.1, paragraph 7.3.1.1.3"
DEFVAL { l3toL0 }
::= { adsl2LineEntry 3 }

adsl2LineCmndConfLdsf OBJECT-TYPE

SYNTAX Adsl2LineLdsf
MAX-ACCESS read-write
STATUS current
DESCRIPTION
 "Loop diagnostics mode forced (LDSF). Defines whether the line
 should be forced into the loop diagnostics mode by the
 near-end ATU on this line or only be responsive to loop
 diagnostics initiated by the far-end ATU. "


```
REFERENCE      " ITU-T G.997.1, paragraph 7.3.1.8.3"
DEFVAL         { inhibit }
::= { adsl2LineEntry 4 }
```

adsl2LineCmndConfLdsfFailReason OBJECT-TYPE

SYNTAX Adsl2LdsfResult

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The status of the recent occasion the Loop diagnostics mode forced (LDSF) was issued for the associated line. Possible values are:

- | | |
|-------------|--|
| none | (1) - The default value in case LDSF was never requested for the associated line. |
| success | (2) - The recent command completed successfully. |
| inProgress | (3) - The Loop Diagnostics process is in progress. |
| unsupported | (4) - The NE or the line card doesn't support LDSF. |
| cannotRun | (5) - The NE cannot initiate the command, due to a non specific reason. |
| aborted | (6) - The Loop Diagnostics process aborted. |
| failed | (7) - The Loop Diagnostics process failed. |
| illegalMode | (8) - The NE cannot initiate the command, due to the specific mode of the relevant line. |
| adminUp | (9) - The NE cannot initiate the command, as the relevant line is administratively 'Up'. |
| tableFull | (10)- The NE cannot initiate the command, due to reaching the maximum number of rows in the results table. |
| noResources | (11)- The NE cannot initiate the command, due to lack of internal memory resources." |

```
::= { adsl2LineEntry 5 }
```

adsl2LineCmndAutomodeColdStart OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Automode cold start forced. This parameter is defined in order to improve testing of the performance of ATUs supporting automode when it is enabled in the MIB. Change the value of this parameter to 'true' indicates a change in loop conditions applied to the devices under test. The ATUs shall reset any historical information

used for automode and for shortening G.994.1 handshake and initialization.

Automode is the case where multiple operation-modes are enabled through the adsl2LConfProfAtuTransSysEna object in the line configuration profile being used for the ADSL line and where the selection of the actual operation-mode does not only depend on the common capabilities of both ATUs (as exchanged in G.994.1), but depends also on achievable data rates under given loop conditions. "

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.1.10"

DEFVAL { false }

::= { adsl2LineEntry 6 }

adsl2LineStatusAtuTransSys OBJECT-TYPE

SYNTAX Adsl2TransmissionModeType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The ATU Transmission System (ATS) in use.

It is coded in a bit-map representation with one bit set to '1' (the selected coding for the ADSL line). This parameter may be derived from the handshaking procedures defined in Recommendation G.994.1. A set of ADSL2 line transmission modes, with one bit per mode. The notes (F) and (L) denote Full-Rate and Lite/splitterless respectively:

- Bit 00 : Regional Std. (ANSI T1.413) (F)
- Bit 01 : Regional Std. (ETSI DTS/TM06006) (F)
- Bit 02 : G.992.1 POTS non-overlapped (F)
- Bit 03 : G.992.1 POTS overlapped (F)
- Bit 04 : G.992.1 ISDN non-overlapped (F)
- Bit 05 : G.992.1 ISDN overlapped (F)
- Bit 06 : G.992.1 TCM-ISDN non-overlapped (F)
- Bit 07 : G.992.1 TCM-ISDN overlapped (F)
- Bit 08 : G.992.2 POTS non-overlapped (L)
- Bit 09 : G.992.2 POTS overlapped (L)
- Bit 10 : G.992.2 with TCM-ISDN non-overlapped (L)
- Bit 11 : G.992.2 with TCM-ISDN overlapped (L)
- Bit 12 : G.992.1 TCM-ISDN symmetric (F) --- not in G.997.1
- Bit 13-17: Reserved
- Bit 18 : G.992.3 POTS non-overlapped (F)
- Bit 19 : G.992.3 POTS overlapped (F)
- Bit 20 : G.992.3 ISDN non-overlapped (F)
- Bit 21 : G.992.3 ISDN overlapped (F)
- Bit 22-23: Reserved
- Bit 24 : G.992.4 POTS non-overlapped (L)
- Bit 25 : G.992.4 POTS overlapped (L)

Bit 26-27: Reserved
Bit 28 : G.992.3 Annex I All-Digital non-overlapped (F)
Bit 29 : G.992.3 Annex I All-Digital overlapped (F)
Bit 30 : G.992.3 Annex J All-Digital non-overlapped (F)
Bit 31 : G.992.3 Annex J All-Digital overlapped (F)
Bit 32 : G.992.4 Annex I All-Digital non-overlapped (L)
Bit 33 : G.992.4 Annex I All-Digital overlapped (L)
Bit 34 : G.992.3 Annex L POTS non-overlapped, mode 1,
wide U/S (F)
Bit 35 : G.992.3 Annex L POTS non-overlapped, mode 2,
narrow U/S(F)
Bit 36 : G.992.3 Annex L POTS overlapped, mode 3,
wide U/S (F)
Bit 37 : G.992.3 Annex L POTS overlapped, mode 4,
narrow U/S (F)
Bit 38 : G.992.3 Annex M POTS non-overlapped (F)
Bit 39 : G.992.3 Annex M POTS overlapped (F)
Bit 40 : G.992.5 POTS non-overlapped (F)
Bit 41 : G.992.5 POTS overlapped (F)
Bit 42 : G.992.5 ISDN non-overlapped (F)
Bit 43 : G.992.5 ISDN overlapped (F)
Bit 44-45: Reserved
Bit 46 : G.992.5 Annex I All-Digital non-overlapped (F)
Bit 47 : G.992.5 Annex I All-Digital overlapped (F)
Bit 48 : G.992.5 Annex J All-Digital non-overlapped (F)
Bit 49 : G.992.5 Annex J All-Digital overlapped (F)
Bit 50 : G.992.5 Annex M POTS non-overlapped (F)
Bit 51 : G.992.5 Annex M POTS overlapped (F)
Bit 52-55 : Reserved"

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.1.1"
 ::= { adsl2LineEntry 7 }

adsl2LineStatusPwrMngState OBJECT-TYPE

SYNTAX Adsl2PowerMngState

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The current power management state. One of four possible power management states:

- L0 - Synchronized and full transmission (i.e. Showtime),
- L1 - Power Down with reduced net data rate (G.992.2 only),
- L2 - Power Down with reduced net data rate (G.992.3 and G.992.4 only),
- L3 - No power

The various possible values are:l0(0), l1(1), l2(2), l3(3)."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.2"

::= { adsl2LineEntry 8 }

adsl2LineStatusInitResult OBJECT-TYPE

SYNTAX Adsl2InitResult

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates the result of the last full initialization performed on the line. It is an enumeration type with the following values: noFailure(0), configError(1), configNotFeasible(2), commFail(3), noPeerAtu(4), otherCause(5)."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.3"

::= { adsl2LineEntry 9 }

adsl2LineStatusLastStateDs OBJECT-TYPE

SYNTAX Adsl2LastTransmittedState

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The last successful transmitted initialization state in the downstream direction in the last full initialization performed on the line. States are per the specific ADSL type and are counted from 0 (if G.994.1 is used) or 1 (if G.994.1 is not used) up to Showtime."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.4"

::= { adsl2LineEntry 10 }

adsl2LineStatusLastStateUs OBJECT-TYPE

SYNTAX Adsl2LastTransmittedState

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The last successful transmitted initialization state in the upstream direction in the last full initialization performed on the line. States are per the specific ADSL type and are counted from 0 (if G.994.1 is used) or 1 (if G.994.1 is not used) up to Showtime."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.5"

::= { adsl2LineEntry 11 }

adsl2LineStatusAtur OBJECT-TYPE

SYNTAX Adsl2LineStatus

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates current state (existing failures) of the ATU-R. This is a bit-map of possible conditions. The various bit positions are: noFailure(0), lossOfFraming(1), lossOfSignal(2), lossOfPower(3), initFailure(4) - never active on ATU-R"

REFERENCE " ITU-T G.997.1, paragraph 7.1.1.2"
 ::= { adsl2LineEntry 12 }

adsl2LineStatusAtuc OBJECT-TYPE

SYNTAX Adsl2LineStatus

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates current state (existing failures) of the ATU-C.
 This is a bit-map of possible conditions. The various bit
 positions are: noFailure(0), lossOfFraming(1),
 lossOfSignal(2), lossOfPower(3), initFailure(4)"

REFERENCE " ITU-T G.997.1, paragraph 7.1.1.1"
 ::= { adsl2LineEntry 13 }

adsl2LineStatusLnAttenDs OBJECT-TYPE

SYNTAX Unsigned32

UNITS "0.1 dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The measured difference in the total power transmitted by the
 ATU-C and the total power received by the ATU-R over all sub
 carriers during diagnostics mode and initialization. It
 ranges from 0 to 1270 units of 0.1 dB (Physical values
 are 0 to 127 dB). A value of all 1's indicates the line
 attenuation is out of range to be represented."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.6"
 ::= { adsl2LineEntry 14 }

adsl2LineStatusLnAttenUs OBJECT-TYPE

SYNTAX Unsigned32

UNITS "0.1 dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The measured difference in the total power transmitted by the
 ATU-R and the total power received by the ATU-C over all sub
 carriers during diagnostics mode and initialization.
 It ranges from 0 to 1270 units of 0.1 dB (Physical values are
 0 to 127 dB). A value of all 1's indicates the line
 attenuation is out of range to be represented."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.7"
 ::= { adsl2LineEntry 15 }

adsl2LineStatusSigAttenDs OBJECT-TYPE

SYNTAX Unsigned32

UNITS "0.1 dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The measured difference in the total power transmitted by the ATU-C and the total power received by the ATU-R over all sub carriers during Showtime. It ranges from 0 to 1270 units of 0.1 dB (Physical values are 0 to 127 dB). A value of all 1's indicates the line attenuation is out of range to be represented."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.8"

::= { adsl2LineEntry 16 }

adsl2LineStatusSigAttenUs OBJECT-TYPE

SYNTAX Unsigned32

UNITS "0.1 dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The measured difference in the total power transmitted by the ATU-R and the total power received by the ATU-C over all sub carriers during Showtime. It ranges from 0 to 1270 units of 0.1 dB (Physical values are 0 to 127 dB). A value of all 1's indicates the line attenuation is out of range to be represented."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.7"

::= { adsl2LineEntry 17 }

adsl2LineStatusSnrMarginDs OBJECT-TYPE

SYNTAX Integer32

UNITS "0.1 dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Downstream SNR Margin is the maximum increase in dB of the noise power received at the ATU-R, such that the BER requirements are met for all downstream bearer channels. It ranges from -640 to 630 units of 0.1 dB (Physical values are -64 to 63 dB). A value of all 1's indicates the line attenuation is out of range to be represented."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.10"

::= { adsl2LineEntry 18 }

adsl2LineStatusSnrMarginUs OBJECT-TYPE

SYNTAX Integer32

UNITS "0.1 dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Upstream SNR Margin is the maximum increase in dB of the noise power received at the ATU-C, such that the BER requirements are met for all downstream bearer channels. It ranges from -640 to 630 units of 0.1 dB (Physical values are -64 to 63 dB). A value of all 1's indicates the line attenuation is out of range to be represented."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.11"

::= { adsl2LineEntry 19 }

adsl2LineStatusAttainableRateDs OBJECT-TYPE

SYNTAX Unsigned32

UNITS "bits/second"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Maximum Attainable Data Rate Downstream.

The maximum downstream net data rate currently attainable by the ATU-C transmitter and the ATU-R receiver, coded in bit/s."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1. "

::= { adsl2LineEntry 20 }

adsl2LineStatusAttainableRateUs OBJECT-TYPE

SYNTAX Unsigned32

UNITS "bits/second"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Maximum Attainable Data Rate Upstream.

The maximum upstream net data rate currently attainable by the ATU-R transmitter and the ATU-C receiver, coded in bit/s."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.13"

::= { adsl2LineEntry 21 }

adsl2LineStatusActPsdDs OBJECT-TYPE

SYNTAX Integer32

UNITS "0.1 dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Actual Power Spectrum Density (PSD) Downstream. The average downstream transmit PSD over the sub carriers used for downstream. It ranges from -900 to 0 units of 0.1 dB (Physical values are -90 to 0 dBm/Hz). A value of all 1's indicates the measurement is out of range to be represented."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.14"

::= { adsl2LineEntry 22 }

adsl2LineStatusActPsdUs OBJECT-TYPE

SYNTAX Integer32
UNITS "0.1 dB"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Actual Power Spectrum Density (PSD) Upstream. The average
 upstream transmit PSD over the sub carriers used for upstream.
 It ranges from -900 to 0 units of 0.1 dB (Physical values
 are -90 to 0 dBm/Hz). A value of all 1's indicates the
 measurement is out of range to be represented."
REFERENCE " ITU-T G.997.1, paragraph 7.5.1.15"
 ::= { adsl2LineEntry 23 }

adsl2LineStatusActAtpdDs OBJECT-TYPE

SYNTAX Integer32
UNITS "0.1 dB"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Actual Aggregate Transmit Power Downstream. The total amount
 of transmit power delivered by the ATU?C at the U-C reference
 point, at the instant of measurement. It ranges from -310 to
 310 units of 0.1 dB (Physical values are -31 to 31 dBm). A
 value of all 1's indicates the measurement is out of range to
 be represented."
REFERENCE " ITU-T G.997.1, paragraph 7.5.1.16"
 ::= { adsl2LineEntry 24 }

adsl2LineStatusActAtpdUs OBJECT-TYPE

SYNTAX Integer32
UNITS "0.1 dB"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Actual Aggregate Transmit Power Upstream. The total amount of
 transmit power delivered by the ATU?R at the U-R
 reference point, at the instant of measurement. It ranges
 from -310 to 310 units of 0.1 dB (Physical values are -31
 to 31 dBm). A value of all 1's indicates the measurement
 is out of range to be represented."
REFERENCE " ITU-T G.997.1, paragraph 7.5.1.17"
 ::= { adsl2LineEntry 25 }

-- adsl2ChannelStatusTable --

adsl2ChannelStatusTable OBJECT-TYPE

SYNTAX SEQUENCE OF Adsl2ChannelStatusEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2ChannelStatusTable contains status parameters of ADSL2 channel."

::= { adsl2Status 1 }

adsl2ChannelStatusEntry OBJECT-TYPE

SYNTAX Adsl2ChannelStatusEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2ChannelStatusTable contains status parameters of ADSL2 channel."

INDEX { ifIndex, adsl2ChStatusUnit }

::= { adsl2ChannelStatusTable 1 }

Adsl2ChannelStatusEntry ::=

SEQUENCE {

adsl2ChStatusUnit	Adsl2Unit,
adsl2ChStatusActDataRate	Unsigned32,
adsl2ChStatusPrevDataRate	Unsigned32,
adsl2ChStatusActDelay	Unsigned32,
adsl2ChStatusAtmStatus	Adsl2ChAtmStatus,
adsl2ChStatusPtmStatus	Adsl2ChPtmStatus

}

adsl2ChStatusUnit OBJECT-TYPE

SYNTAX Adsl2Unit

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The termination unit ATUC(1) or ATUR(2)."

::= { adsl2ChannelStatusEntry 1 }

adsl2ChStatusActDataRate OBJECT-TYPE

SYNTAX Unsigned32(0..50000000)

UNITS "bits/second"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The actual net data rate the bearer channel is operating at, if in L0 power management state. In L1 or L2 states, it relates to the previous L0 state. The data rate is coded in bit/s."

REFERENCE "ITU-T G.997.1, paragraph 7.5.2.1"

::= { adsl2ChannelStatusEntry 2 }

adsl2ChStatusPrevDataRate OBJECT-TYPE

SYNTAX Unsigned32(0..50000000)

UNITS "bits/second"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The previous net data rate the bearer channel was operating at just before the latest rate change event. This could be a full or short initialization, fast retrain, DRA or power management transitions, excluding transitions between L0 state and L1 or L2 states. The data rate is coded in bit/s."

REFERENCE "ITU-T G.997.1, paragraph 7.5.2.2"

::= { adsl2ChannelStatusEntry 3 }

adsl2ChStatusActDelay OBJECT-TYPE

SYNTAX Unsigned32(0..64)

UNITS "milliseconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The actual one-way interleaving delay introduced by the PMS-TC in the direction of the bearer channel, if in L0 power management state. In L1 or L2 states, it relates to the previous L0 state. It is coded in ms (rounded to the nearest ms)."

REFERENCE "ITU-T G.997.1, paragraph 7.5.2.3"

::= { adsl2ChannelStatusEntry 4 }

adsl2ChStatusAtmStatus OBJECT-TYPE

SYNTAX Adsl2ChAtmStatus

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates current state (existing failures) of the ADSL channel in case its Data Path is ATM. This is a bit-map of possible conditions. The various bit positions are:

noFailure(0),
noCellDelineation(1),
lossOfCellDelineation (2).

In case the channel is not of ATM Data Path the object is set to '0'."

REFERENCE "ITU-T G.997.1, paragraph 7.1.4"

::= { adsl2ChannelStatusEntry 5 }

adsl2ChStatusPtmStatus OBJECT-TYPE

SYNTAX Adsl2ChPtmStatus

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates current state (existing failures) of the ADSL channel in case its Data Path is PTM. This is a bit-map of possible conditions. The various bit positions are:

noFailure(0),
outOfSync (1).

In case the channel is not of PTM Data Path the object is set to '0'."

REFERENCE " ITU-T G.997.1, paragraph 7.1.5"

::= { adsl2ChannelStatusEntry 6 }

-- Scalars that relate to the adsl2SCStatusTable.

adsl2ScalarSCMaxInterfaces OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This value determines the upper size of adsl2SCStatusTable. The maximum number of entries in adsl2SCStatusTable is equal to two times the value of this attribute."

::= { adsl2ScalarSC 1 }

adsl2ScalarSCAvailInterfaces OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This value determines the amount of space that is currently available in adsl2SCStatusTable. The number of entries available in adsl2SCStatusTable is equal to two times the value of this attribute."

::= { adsl2ScalarSC 2 }

-- adsl2SCStatusTable --

adsl2SCStatusTable OBJECT-TYPE

SYNTAX SEQUENCE OF Adsl2SCStatusEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2SCStatusTable contains status parameters of ADSL2 sub carriers."


```
::= { adsl2Status 2 }
```

```
adsl2SCStatusEntry OBJECT-TYPE
```

```
SYNTAX      Adsl2SCStatusEntry
```

```
MAX-ACCESS  not-accessible
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"The table Hfadsl2SCStatusEntry contains status parameters
of ADSL2 sub carriers.
```

```
The index of this table is an interface index where the
interface has a ifType of adsl2(xx)."
```

```
INDEX { ifIndex , adsl2SCStatusDirection }
```

```
::= { adsl2SCStatusTable 1 }
```

```
Adsl2SCStatusEntry ::=
```

```
SEQUENCE {
```

adsl2SCStatusDirection	Adsl2Direction,
adsl2SCStatusMtime	Unsigned32,
adsl2SCStatusSnr	OCTET STRING,
adsl2SCStatusBitsAlloc	OCTET STRING,
adsl2SCStatusGainAlloc	OCTET STRING,
adsl2SCStatusLinScale	Unsigned32,
adsl2SCStatusLinReal	OCTET STRING,
adsl2SCStatusLinImg	OCTET STRING,
adsl2SCStatusLogMt	Unsigned32,
adsl2SCStatusLog	OCTET STRING,
adsl2SCStatusQlnMt	Unsigned32,
adsl2SCStatusQln	OCTET STRING,
adsl2SCStatusLnAtten	Unsigned32,
adsl2SCStatusSigAtten	Unsigned32,
adsl2SCStatusSnrMargin	Integer32,
adsl2SCStatusAttainableRate	Unsigned32,
adsl2SCStatusActAtp	Integer32,
adsl2SCStatusRowStatus	RowStatus

```
}
```

```
adsl2SCStatusDirection OBJECT-TYPE
```

```
SYNTAX      Adsl2Direction
```

```
MAX-ACCESS  not-accessible
```

```
STATUS      current
```

```
DESCRIPTION
```

```
""
```

```
::= { adsl2SCStatusEntry 1 }
```

```
adsl2SCStatusMtime OBJECT-TYPE
```

```
SYNTAX      Unsigned32
```

```
UNITS       "symbols"
```

```
MAX-ACCESS  read-only
```


STATUS current

DESCRIPTION

"SNR Measurement Time. The number of symbols used to measure the SNR values on the respective transmission direction. It should correspond to the value specified in the recommendation (e.g. the number of symbols in 1 second time interval for G.992.3). This parameter corresponds to 1 second in loop diagnostic procedure and should be updated otherwise"

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.20"

::= { adsl2SCStatusEntry 2 }

adsl2SCStatusSnr OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..512))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The SNR Margin per sub-carrier, expressing the ratio between the received signal power and received noise power per subscriber. It is an array of 512 bytes, designed for supporting up to 512 (downstream) sub-carriers.

The number of utilized octets on downstream direction depends on NSCds and on upstream direction it depends on NSCus. This value is referred here as NSC.

Byte i ($0 \leq i < \text{NSC}$) is set to a value in the range 0 to 254 to indicate that the respective downstream or upstream sub-carrier i has SNR of: $(-32 + \text{Adsl2SubcarrierSnr}(i)/2)$ in dB (i.e., -32 to 95dB).

The special value 255 means that no measurement could be done for the subcarrier because it is out of the PSD mask passband or that the noise PSD is out of range to be represented.

Each value in this array is 8 bits wide."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.20"

::= { adsl2SCStatusEntry 3 }

adsl2SCStatusBitsAlloc OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..256))

UNITS "bits"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The bits allocation per sub-carrier. An array of 256 bytes (512 nibbles), designed for supporting up to 512 (downstream) sub-carriers.

The number of utilized nibbles on downstream direction depends on NSCds and on upstream direction it depends on NSCus. This value is referred here as NSC.

Nibble i ($0 \leq i < \text{NSC}$) is set to a value in the range 0

to 15 to indicate that the respective downstream or upstream sub-carrier *i* has the same amount of bits allocation."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.21"

::= { adsl2SCStatusEntry 4 }

adsl2SCStatusGainAlloc OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..1024))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The gain allocation per sub-carrier. An array of 512 16-bits values, designed for supporting up to 512 (downstream) sub-carriers.

The number of utilized octets on downstream direction depends on NSCds and on upstream direction it depends on NSCus. This value is referred here as NSC.

Value *i* ($0 \leq i < \text{NSC}$) is in the range 0 to 4093 to indicate that the respective downstream or upstream sub-carrier *i* has the same amount of gain value.

The gain value is represented as a multiple of 1/512 on linear scale. Each value in this array is 16 bits wide and is stored in big endian format."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.21"

::= { adsl2SCStatusEntry 5 }

adsl2SCStatusLinScale OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The scale factor to be applied to the $H(f)$ linear representation values for the respective transmission direction. This parameter is only available after a loop diagnostic procedure."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.18"

::= { adsl2SCStatusEntry 6 }

adsl2SCStatusLinReal OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..1024))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" An array of up to 512 complex $H(f)$ linear representation values in linear scale for the respective transmission direction. It is designed to support up to 512 (downstream) sub-carriers.

The number of utilized values on downstream direction depends on NSCds and on upstream direction it depends on NSCus. This

value is referred here as NSC.

Each array entry represents the real component [referred here as $a(i)$] of $Hlin(f = i \cdot Df)$ value for a particular sub-carrier index i ($0 \leq i < NSC$).

$Hlin(f)$ is represented as $((scale/2^{15}) * ((a(i) + j * b(i)) / 2^{15}))$, where scale is `Adsl2SubcarrierLinScale` and $a(i)$ and $b(i)$ [provided by the `Adsl2SubcarrierLinImg` object] are in the range $(-2^{15}+1)$ to $(+2^{15}-1)$.

A special value $a(i)=b(i)= -2^{15}$ indicates that no measurement could be done for the subcarrier because it is out of the passband or that the attenuation is out of range to be represented. This parameter is only available after a loop diagnostic procedure.

Each value in this array is 16 bits wide and is stored in big endian format."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.18"

::= { `adsl2SCStatusEntry 7` }

`adsl2SCStatusLinImg` OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..1024))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" An array of up to 512 complex $H(f)$ linear representation values in linear scale for the respective transmission direction. It is designed to support up to 512 (downstream) sub-carriers.

The number of utilized values on downstream direction depends on NSCds and on upstream direction it depends on NSCus. This value is referred here as NSC.

Each array entry represents the imaginary component [referred here as $b(i)$] of $Hlin(f = i \cdot Df)$ value for a particular sub-carrier index i ($0 \leq i < NSC$).

$Hlin(f)$ is represented as $((scale/2^{15}) * ((a(i) + j * b(i)) / 2^{15}))$, where scale is `Adsl2SubcarrierLinScale` and $a(i)$ [provided by the `Adsl2SubcarrierLinReal` object] and $b(i)$ are in the range $(-2^{15}+1)$ to $(+2^{15}-1)$.

A special value $a(i)=b(i)= -2^{15}$ indicates that no measurement could be done for the subcarrier because it is out of the passband or that the attenuation is out of range to be represented. This parameter is only available after a loop diagnostic procedure.

Each value in this array is 16 bits wide and is stored in big endian format."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.18"

::= { `adsl2SCStatusEntry 8` }

`adsl2SCStatusLogMt` OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of symbols used to measure the H(f) logarithmic measurement values for the respective transmission direction. This parameter should correspond to the value specified in the recommendation (e.g. the number of symbols in 1 second time interval for G.992.3). This parameter corresponds to 1 second in loop diagnostic procedure and should be updated in initialization"

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.18"

::= { adsl2SCStatusEntry 9 }

adsl2SCStatusLog OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..1024))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"An array of up to 512 real H(f) logarithmic representation values in dB for the respective transmission direction. It is designed to support up to 512 (downstream) sub-carriers. The number of utilized values on downstream direction depends on NSCds and on upstream direction it depends on NSCus. This value is referred here as NSC.

Each array entry represents the real $H_{\log}(f = i \cdot D_f)$ value for a particular sub-carrier index i , ($0 \leq i < NSC$).

The real $H_{\log}(f)$ value is represented as $(6 - m(i)/10)$, with $m(i)$ in the range 0 to 1022. A special value $m=1023$ indicates that no measurement could be done for the subcarrier because it is out of the passband or that the attenuation is out of range to be represented. This parameter is applicable in loop diagnostic procedure and initialization.

Each value in this array is 16 bits wide and is stored in big endian format."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.18"

::= { adsl2SCStatusEntry 10 }

adsl2SCStatusQlnMt OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of symbols used to measure the Quiet Line Noise values on the respective transmission direction. This parameter should correspond to the value specified in the recommendation (e.g. the number of symbols in 1 second time interval for G.992.3). This parameter corresponds to 1 second

in loop diagnostic procedure and should be updated in initialization "

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.19"

::= { adsl2SCStatusEntry 11 }

adsl2SCStatusQLn OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..512))

UNITS "dBm/Hz"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"An array of up to 512 real Quiet Line Noise values in dBm/Hz for the respective transmission direction. It is designed for up to 512 (downstream) sub-carriers

The number of utilized values on downstream direction depends on NSCds and on upstream direction it depends on NSCus. This value is referred here as NSC.

Each array entry represents the $QLN(f = i \cdot Df)$ value for a particular sub-carrier index i , ($0 \leq i < NSC$).

The $QLN(f)$ is represented as $(-23 - n(i)/2)$, with $n(i)$ in the range 0 to 254. A special value $n(i)=255$ indicates that no measurement could be done for the subcarrier because it is out of the passband or that the noise PSD is out of range to be represented.

This parameter is applicable in loop diagnostic procedure and initialization. Each value in this array is 8 bits wide."

REFERENCE " ITU-T G.997.1, paragraph 7.5.1.19"

::= { adsl2SCStatusEntry 12 }

adsl2SCStatusLnAtten OBJECT-TYPE

SYNTAX Unsigned32

UNITS "0.1 dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"When referring to the downstream direction it is the measured difference in the total power transmitted by the ATU-C and the total power received by the ATU-R over all sub carriers during diagnostics mode.

When referring to the upstream direction it is the measured difference in the total power transmitted by the ATU-R and the total power received by the ATU-C over all sub carriers during diagnostics mode.

It ranges from 0 to 1270 units of 0.1 dB (Physical values are 0 to 127 dB). A value of all 1's indicates the line attenuation is out of range to be represented.

This object reflects the value of the parameter following the most recent DELT performed on the associated line. Once

the DELT process is over the parameter no longer changes until the row is deleted or a new DELT process is initiated. "

REFERENCE " ITU-T G.997.1, paragraph 7.5.1"

::= { adsl2SCStatusEntry 13 }

adsl2SCStatusSigAtten OBJECT-TYPE

SYNTAX Unsigned32

UNITS "0.1 dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

" When referring to the downstream direction it is the measured difference in the total power transmitted by the ATU-C and the total power received by the ATU-R over all sub carriers during Showtime after the diagnostics mode .

When referring to the upstream direction it is the measured difference in the total power transmitted by the ATU-R and the total power received by the ATU-C over all sub carriers during Showtime after the diagnostics mode .

It ranges from 0 to 1270 units of 0.1 dB (Physical values are 0 to 127 dB). A value of all 1's indicates the line attenuation is out of range to be represented.

This object reflects the value of the parameter following the most recent DELT performed on the associated line. Once the DELT process is over the parameter no longer changes until the row is deleted or a new DELT process is initiated. "

REFERENCE " ITU-T G.997.1, paragraph 7.5.1"

::= { adsl2SCStatusEntry 14 }

adsl2SCStatusSnrMargin OBJECT-TYPE

SYNTAX Integer32

UNITS "0.1 dB"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"SNR Margin is the maximum increase in dB of the noise power received at the ATU (ATU-R on downstream direction and ATU-C on upstream direction), such that the BER requirements are met for all bearer channels received at the ATU. It ranges from -640 to 630 units of 0.1 dB (Physical values are -64 to 63 dB). A value of all 1's indicates the SNR margin is out of range to be represented.

This object reflects the value of the parameter following the most recent DELT performed on the associated line. Once the DELT process is over the parameter no longer changes until the row is deleted or a new DELT process is initiated. "

REFERENCE " ITU-T G.997.1, paragraph 7.5.1"

::= { adsl2SCStatusEntry 15 }

adsl2SCStatusAttainableRate OBJECT-TYPE

SYNTAX Unsigned32
UNITS "bits/second"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"Maximum Attainable Data Rate. The maximum net data rate currently attainable by the ATU-C transmitter and ATU-R receiver (when referring to downstream direction) or by the ATU-R transmitter and ATU-C receiver (when referring to upstream direction). Value is coded in bits/s. This object reflects the value of the parameter following the most recent DELT performed on the associated line. Once the DELT process is over the parameter no longer changes until the row is deleted or a new DELT process is initiated. "

REFERENCE " ITU-T G.997.1, paragraph 7.5.1"

::= { adsl2SCStatusEntry 16 }

adsl2SCStatusActAtp OBJECT-TYPE

SYNTAX Integer32
UNITS "0.1 dB"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"Actual Aggregate Transmit Power from the ATU (ATU-R on downstream direction and ATU-C on upstream direction), at the instant of measurement. It ranges from -310 to 310 units of 0.1 dB (Physical values are -31 to 31 dBm). A value of all 1's indicates the measurement is out of range to be represented.

This object reflects the value of the parameter following the most recent DELT performed on the associated line. Once the DELT process is over the parameter no longer changes until the row is deleted or a new DELT process is initiated. "

REFERENCE " ITU-T G.997.1, paragraph 7.5.1"

::= { adsl2SCStatusEntry 17 }

adsl2SCStatusRowStatus OBJECT-TYPE

SYNTAX RowStatus
MAX-ACCESS read-write
STATUS current
DESCRIPTION

"Row Status. The SNMP agent should create a row in this table for storing the results of a DELT performed on the associated line, if such a row does not already exist. The SNMP agent may have a limited resources and therefore in case multiple rows co-exist in the table it may fail to add new rows to the table or allocate memory resources for a new

DELT process. If that occurs the SNMP agent responds with either the value 'tableFull' or the value 'noResources' (for adsl2LineCmndConfLdsfFailReason object in adsl2LineTable)

The management system (the operator) may delete rows according to any scheme. E.g., after retrieving the results."

```
::= { adsl2SCStatusEntry 18 }
```

```
-----
--          adsl2LineInventoryTable          --
-----

adsl2LineInventoryTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF Adsl2LineInventoryEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "The table adsl2LineInventoryTable contains inventory of ADSL2
        unit."
    ::= { adsl2Inventory 1 }

adsl2LineInventoryEntry  OBJECT-TYPE
    SYNTAX      Adsl2LineInventoryEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "The table adsl2LineInventoryTable contains inventory of ADSL2
        unit.
        The index of this table is an interface index where the
        interface has a ifType of adsl2(xx)."
```

```
INDEX { ifIndex ,adsl2LInvUnit }
::= { adsl2LineInventoryTable 1 }
```

```
Adsl2LineInventoryEntry ::=
    SEQUENCE {
        adsl2LInvUnit                Adsl2Unit,
        adsl2LInvG994VendorId        OCTET STRING,
        adsl2LInvSystemVendorId      OCTET STRING,
        adsl2LInvVersionNumber       OCTET STRING,
        adsl2LInvSerialNumber        OCTET STRING,
        adsl2LInvSelfTestResult      OCTET STRING,
        adsl2LInvTransmissionCapabilities Adsl2TransmissionModeType
    }

adsl2LInvUnit  OBJECT-TYPE
    SYNTAX      Adsl2Unit
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
```


"The termination unit ATUC{1} or ATUR{2}."
 ::= { adsl2LineInventoryEntry 1 }

adsl2LInvG994VendorId OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..8))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The ATU G.994.1 Vendor ID as inserted in the G.994.1 CL/CLR message. It consists of 8 binary octets, including a country code followed by a (regionally allocated) provider code, as defined in Recommendation T.35."

REFERENCE " ITU-T G.997.1, paragraph 7.4"

::= { adsl2LineInventoryEntry 2 }

adsl2LInvSystemVendorId OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..8))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The ATU System Vendor ID (identifies the ATU system integrator) as inserted in the Overhead Messages (both ATUs for G.992.3 and G.992.4) or in the Embedded Operations Channel (only ATU-R in G.992.1 and G.992.2). It consists of 8 binary octets, with same format as used for Adsl2InvG994VendorId."

REFERENCE " ITU-T G.997.1, paragraph 7.4"

::= { adsl2LineInventoryEntry 3 }

adsl2LInvVersionNumber OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..16))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The ATU version number (vendor specific information) as inserted in the Overhead Messages (both ATUs for G.992.3 and G.992.4) or in the Embedded Operations Channel (only ATU-R in G.992.1 and G.992.2). It consists of up to 16 binary octets."

REFERENCE " ITU-T G.997.1, paragraph 7.4"

::= { adsl2LineInventoryEntry 4 }

adsl2LInvSerialNumber OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..32))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The ATU serial number (vendor specific information) as inserted in the Overhead Messages (both ATUs for G.992.3 and

G.992.4) or in the Embedded Operations Channel (only ATU-R in G.992.1 and G.992.2). It is vendor specific information. It consists of up to 32 ASCII characters."

REFERENCE " ITU-T G.997.1, paragraph 7.4"

::= { adsl2LineInventoryEntry 5 }

adsl2LInvSelfTestResult OBJECT-TYPE

SYNTAX OCTET STRING (SIZE (0..4))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The ATU self-test result, coded as a 32-bit integer. The most significant octet of this object is '0' if the self-test passed and '1' if the self-test failed. The interpretation of the other octets is vendor discretionary."

REFERENCE " ITU-T G.997.1, paragraph 7.4"

::= { adsl2LineInventoryEntry 6 }

adsl2LInvTransmissionCapabilities OBJECT-TYPE

SYNTAX Adsl2TransmissionModeType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The ATU transmission system capability list of the different coding types. It is coded in a bit-map representation with 1 or more bits set. A bit set to '1' means that the ATU supports the respective coding. The value may be derived from the handshaking procedures defined in G.994.1. A set of ADSL2 line transmission modes, with one bit per mode. The notes (F) and (L) denote Full-Rate and Lite/splitterless respectively:

- Bit 00 : Regional Std. (ANSI T1.413) (F)
- Bit 01 : Regional Std. (ETSI DTS/TM06006) (F)
- Bit 02 : G.992.1 POTS non-overlapped (F)
- Bit 03 : G.992.1 POTS overlapped (F)
- Bit 04 : G.992.1 ISDN non-overlapped (F)
- Bit 05 : G.992.1 ISDN overlapped (F)
- Bit 06 : G.992.1 TCM-ISDN non-overlapped (F)
- Bit 07 : G.992.1 TCM-ISDN overlapped (F)
- Bit 08 : G.992.2 POTS non-overlapped (L)
- Bit 09 : G.992.2 POTS overlapped (L)
- Bit 10 : G.992.2 with TCM-ISDN non-overlapped (L)
- Bit 11 : G.992.2 with TCM-ISDN overlapped (L)
- Bit 12 : G.992.1 TCM-ISDN symmetric (F) --- not in G.997.1
- Bit 13-17: Reserved
- Bit 18 : G.992.3 POTS non-overlapped (F)
- Bit 19 : G.992.3 POTS overlapped (F)
- Bit 20 : G.992.3 ISDN non-overlapped (F)


```

Bit 21 : G.992.3 ISDN overlapped (F)
Bit 22-23: Reserved
Bit 24 : G.992.4 POTS non-overlapped (L)
Bit 25 : G.992.4 POTS overlapped (L)
Bit 26-27: Reserved
Bit 28 : G.992.3 Annex I All-Digital non-overlapped (F)
Bit 29 : G.992.3 Annex I All-Digital overlapped (F)
Bit 30 : G.992.3 Annex J All-Digital non-overlapped (F)
Bit 31 : G.992.3 Annex J All-Digital overlapped (F)
Bit 32 : G.992.4 Annex I All-Digital non-overlapped (L)
Bit 33 : G.992.4 Annex I All-Digital overlapped (L)
Bit 34 : G.992.3 Annex L POTS non-overlapped, mode 1,
        wide U/S (F)
Bit 35 : G.992.3 Annex L POTS non-overlapped, mode 2,
        narrow U/S (F)
Bit 36 : G.992.3 Annex L POTS overlapped, mode 3,
        wide U/S (F)
Bit 37 : G.992.3 Annex L POTS overlapped, mode 4,
        narrow U/S (F)
Bit 38 : G.992.3 Annex M POTS non-overlapped (F)
Bit 39 : G.992.3 Annex M POTS overlapped (F)
Bit 40 : G.992.5 POTS non-overlapped (F)
Bit 41 : G.992.5 POTS overlapped (F)
Bit 42 : G.992.5 ISDN non-overlapped (F)
Bit 43 : G.992.5 ISDN overlapped (F)
Bit 44-45: Reserved
Bit 46 : G.992.5 Annex I All-Digital non-overlapped (F)
Bit 47 : G.992.5 Annex I All-Digital overlapped (F)
Bit 48 : G.992.5 Annex J All-Digital non-overlapped (F)
Bit 49 : G.992.5 Annex J All-Digital overlapped (F)
Bit 50 : G.992.5 Annex M POTS non-overlapped (F)
Bit 51 : G.992.5 Annex M POTS overlapped (F)
Bit 52-55 : Reserved"

```

REFERENCE " ITU-T G.997.1, paragraph 7.4"

```
 ::= { adsl2LineInventoryEntry 7 }
```

```

-----
--          adsl2LineConfTemplateTable          --
-----
adsl2LineConfTemplateTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF Adsl2LineConfTemplateEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The table adsl2LineConfTemplateTable contains ADSL2 line
         configuration template."
    ::= { adsl2ProfileLine 1 }

```


adsl2LineConfTemplateEntry OBJECT-TYPE

SYNTAX Adsl2LineConfTemplateEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2LineConfTemplateTable contains ADSL2 line configuration template.

A default template with an index of 'DEFVAL', will always exist and its parameters will be set to vendor specific values, unless otherwise specified in this document"

INDEX { adsl2LConfTempTemplateName }

::= { adsl2LineConfTemplateTable 1 }

Adsl2LineConfTemplateEntry ::=

SEQUENCE {

adsl2LConfTempTemplateName	SnmpAdminString ,
adsl2LConfTempLineProfile	SnmpAdminString,
adsl2LConfTempChan1ConfProfile	SnmpAdminString,
adsl2LConfTempChan1RaRatioDs	Unsigned32,
adsl2LConfTempChan1RaRatioUs	Unsigned32,
adsl2LConfTempChan2ConfProfile	SnmpAdminString,
adsl2LConfTempChan2RaRatioDs	Unsigned32,
adsl2LConfTempChan2RaRatioUs	Unsigned32,
adsl2LConfTempChan3ConfProfile	SnmpAdminString,
adsl2LConfTempChan3RaRatioDs	Unsigned32,
adsl2LConfTempChan3RaRatioUs	Unsigned32,
adsl2LConfTempChan4ConfProfile	SnmpAdminString,
adsl2LConfTempChan4RaRatioDs	Unsigned32,
adsl2LConfTempChan4RaRatioUs	Unsigned32,
adsl2LConfTempRowStatus	RowStatus

}

adsl2LConfTempTemplateName OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(1..32))

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object identifies a row in this table."

REFERENCE " DSL Forum TR-90, paragraph 5.1.4"

::= { adsl2LineConfTemplateEntry 1 }

adsl2LConfTempLineProfile OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(1..32))

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The value of this object identifies the row in the ADSL2 Line

Configuration Profile Table, (Adsl2LineConfProfileTable),
which applies for this ADSL2 line."
REFERENCE " DSL Forum TR-90, paragraph 5.1.4"
::= { adsl2LineConfTemplateEntry 2 }

adsl2LConfTempChan1ConfProfile OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(1..32))

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The value of this object identifies the row in the ADSL2
Channel Configuration Profile Table,
(Adsl2ChanConfProfileTable), which applies for ADSL2 bearer
channel #1. The channel profile name specified here must
match the name of an existing row in the
adsl2ChConfProfileTable table."

DEFVAL { "DEFVAL" }

::= { adsl2LineConfTemplateEntry 3 }

adsl2LConfTempChan1RaRatioDs OBJECT-TYPE

SYNTAX Unsigned32(0..100)

UNITS "percents"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Rate Adaptation Ratio. The ratio (in %) that should be taken
into account for the bearer channel #1 when performing rate
adaptation on Downstream. The ratio refers to the available
data rate in excess of the Minimum Data Rate summed over all
bearer channels. Also, the 1- Adsl2ConfTemplateChan1RaRatioDs
is the ratio of excess data rate to be assigned to all other
bearer channels on Downstream direction. The sum of rate
adaptation ratios over all bearers on the same direction shall
be equal to 100%."

REFERENCE " ITU-T G.997.1, paragraph 7.3.2.1"

DEFVAL { 100 }

::= { adsl2LineConfTemplateEntry 4 }

adsl2LConfTempChan1RaRatioUs OBJECT-TYPE

SYNTAX Unsigned32(0..100)

UNITS "percents"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Rate Adaptation Ratio. The ratio (in %) that should be taken
into account for the bearer channel #1 when performing rate
adaptation on Upstream. The ratio refers to the available
data rate in excess of the Minimum Data Rate summed over all

bearer channels. Also, the
1 - Adsl2ConfTemplateChan1RaRatioUs is the ratio of excess
data rate to be assigned to all other bearer channels on
Upstream direction. The sum of rate adaptation ratios over
all bearers on the same direction shall be equal to 100 %."
REFERENCE " ITU-T G.997.1, paragraph 7.3.2.1"
DEFVAL { 100 }
::= { adsl2LineConfTemplateEntry 5 }

adsl2LConfTempChan2ConfProfile OBJECT-TYPE
SYNTAX SnmpAdminString (SIZE(0..32))
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The value of this object identifies the row in the ADSL2
Channel Configuration Profile Table,
(Adsl2ChanConfProfileTable), which applies for ADSL2 bearer
channel #2. If channel is unused then the object is set to
a zero length string."
DEFVAL { "" }
::= { adsl2LineConfTemplateEntry 6 }

adsl2LConfTempChan2RaRatioDs OBJECT-TYPE
SYNTAX Unsigned32(0..100)
UNITS "percents"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"Rate Adaptation Ratio. The ratio (in %) that should be taken
into account for the bearer channel #2 when performing rate
adaptation on Downstream. The ratio refers to the available
data rate in excess of the Minimum Data Rate summed over all
bearer channels. Also, the
1 - Adsl2ConfTemplateChan2RaRatioDs is the ratio of excess
data rate to be assigned to all other bearer channels on
Downstream direction. The sum of rate adaptation ratios
over all bearers on the same direction shall be equal to
100%."
REFERENCE " ITU-T G.997.1, paragraph 7.3.2.1"
DEFVAL { 0 }
::= { adsl2LineConfTemplateEntry 7 }

adsl2LConfTempChan2RaRatioUs OBJECT-TYPE
SYNTAX Unsigned32(0..100)
UNITS "percents"
MAX-ACCESS read-create
STATUS current
DESCRIPTION

"Rate Adaptation Ratio. The ratio (in %) that should be taken into account for the bearer channel #2 when performing rate adaptation on Upstream. The ratio refers to the available data rate in excess of the Minimum Data Rate summed over all bearer channels. Also, the 1 - Adsl2ConfTemplateChan2RaRatioUs is the ratio of excess data rate to be assigned to all other bearer channels on Upstream direction. The sum of rate adaptation ratios over all bearers on the same direction shall be equal to 100 %."

REFERENCE " ITU-T G.997.1, paragraph 7.3.2.1"

DEFVAL { 0 }

::= { adsl2LineConfTemplateEntry 8 }

adsl2LConfTempChan3ConfProfile OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(0..32))

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The value of this object identifies the row in the ADSL2 Channel Configuration Profile Table, (Adsl2ChanConfProfileTable), which applies for ADSL2 bearer channel #3. If channel is unused then the object is set to a zero length string.

This object may be set to a non zero length string only if adsl2LConfTempChan2ConfProfile contains a non zero length string."

DEFVAL { "" }

::= { adsl2LineConfTemplateEntry 9 }

adsl2LConfTempChan3RaRatioDs OBJECT-TYPE

SYNTAX Unsigned32(0..100)

UNITS "percents"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Rate Adaptation Ratio. The ratio (in %) that should be taken into account for the bearer channel #3 when performing rate adaptation on Downstream. The ratio refers to the available data rate in excess of the Minimum Data Rate summed over all bearer channels. Also, the 1- Adsl2ConfTemplateChan3RaRatioDs is the ratio of excess data rate to be assigned to all other bearer channels on Downstream direction. The sum of rate adaptation ratios over all bearers on the same direction shall be equal to 100%."

REFERENCE " ITU-T G.997.1, paragraph 7.3.2.1"

DEFVAL { 0 }

::= { adsl2LineConfTemplateEntry 10 }

adsl2LConfTempChan3RaRatioUs OBJECT-TYPE

SYNTAX Unsigned32(0..100)

UNITS "percents"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Rate Adaptation Ratio. The ratio (in %) that should be taken into account for the bearer channel #3 when performing rate adaptation on Upstream. The ratio refers to the available data rate in excess of the Minimum Data Rate summed over all bearer channels. Also, the

1 - Adsl2ConfTemplateChan3RaRatioUs is the ratio of excess data rate to be assigned to all other bearer channels on Upstream direction. The sum of rate adaptation ratios over all bearers on the same direction shall be equal to 100%."

REFERENCE "ITU-T G.997.1, paragraph 7.3.2.1"

DEFVAL { 0 }

::= { adsl2LineConfTemplateEntry 11 }

adsl2LConfTempChan4ConfProfile OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(0..32))

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The value of this object identifies the row in the ADSL2 Channel Configuration Profile Table, (Adsl2ChanConfProfileTableDs), which applies for ADSL2 bearer channel #4. If channel is unused Then the object is set to a zero length string.

This object may be set to a non zero length string only if adsl2LConfTempChan3ConfProfile contains a non zero length string."

DEFVAL { "" }

::= { adsl2LineConfTemplateEntry 12 }

adsl2LConfTempChan4RaRatioDs OBJECT-TYPE

SYNTAX Unsigned32(0..100)

UNITS "percents"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Rate Adaptation Ratio. The ratio (in %) that should be taken into account for the bearer channel #4 when performing rate adaptation on Downstream. The ratio refers to the available data rate in excess of the Minimum Data Rate summed over all bearer channels. Also, the 1 - Chan4RaRatio is the ratio of excess data rate to be assigned to all other bearer channels. The sum of rate adaptation ratios over all bearers on the same


```
direction shall sum to 100%."
REFERENCE      " ITU-T G.997.1, paragraph 7.3.2.1"
DEFVAL         { 0 }
::= { adsl2LineConfTemplateEntry 13 }
```

adsl2LConfTempChan4RaRatioUs OBJECT-TYPE

```
SYNTAX         Unsigned32(0..100)
UNITS          "percents"
MAX-ACCESS     read-create
STATUS         current
DESCRIPTION    "Rate Adaptation Ratio. The ratio (in %) that should be taken
               into account for the bearer channel #4 when performing rate
               adaptation on Upstream. The ratio refers to the available
               data rate in excess of the Minimum Data Rate summed over
               all bearer channels. Also, the 1 - Chan4RaRatio is the
               ratio of excess data rate to be assigned to all other bearer
               channels. The sum of rate adaptation ratios over all bearers
               on the same direction shall sum to 100%."
REFERENCE      " ITU-T G.997.1, paragraph 7.3.2.1"
DEFVAL         { 0 }
::= { adsl2LineConfTemplateEntry 14 }
```

adsl2LConfTempRowStatus OBJECT-TYPE

```
SYNTAX         RowStatus
MAX-ACCESS     read-create
STATUS         current
DESCRIPTION    "Row Status."
::= { adsl2LineConfTemplateEntry 15 }
```

```
-----
--          adsl2LineConfProfTable          --
-----
```

adsl2LineConfProfTable OBJECT-TYPE

```
SYNTAX         SEQUENCE OF Adsl2LineConfProfEntry
MAX-ACCESS     not-accessible
STATUS         current
DESCRIPTION    "The table adsl2LineConfProfTable contains ADSL2 line profile
               configuration."
::= { adsl2ProfileLine 2 }
```

adsl2LineConfProfEntry OBJECT-TYPE

```
SYNTAX         Adsl2LineConfProfEntry
MAX-ACCESS     not-accessible
STATUS         current
```


DESCRIPTION

"The table adsl2LineConfProfTable contains ADSL2 line profile configuration.

A default profile with an index of 'DEFVAL', will always exist and its parameters will be set to vendor specific values, unless otherwise specified in this document"

```
INDEX { adsl2LConfProfProfileName }
::= { adsl2LineConfProfTable 1 }
```

```
Adsl2LineConfProfEntry ::=
```

```
SEQUENCE {
    adsl2LConfProfProfileName      SnmpAdminString,
    adsl2LConfProfScMaskDs         Adsl2ScMaskDs,
    adsl2LConfProfScMaskUs         Adsl2ScMaskUs,
    adsl2LConfProfRfiBandsDs       Adsl2RfiDs,
    adsl2LConfProfRaModeDs         Adsl2RaMode,
    adsl2LConfProfRaModeUs         Adsl2RaMode,
    adsl2LConfProfRaUsNrmDs        Unsigned32,
    adsl2LConfProfRaUsNrmUs        Unsigned32,
    adsl2LConfProfRaUsTimeDs       Unsigned32,
    adsl2LConfProfRaUsTimeUs       Unsigned32,
    adsl2LConfProfRaDsNrmsDs       Unsigned32,
    adsl2LConfProfRaDsNrmsUs       Unsigned32,
    adsl2LConfProfRaDsTimeDs       Unsigned32,
    adsl2LConfProfRaDsTimeUs       Unsigned32,
    adsl2LConfProfTargetSnrmDs     Unsigned32,
    adsl2LConfProfTargetSnrmUs     Unsigned32,
    adsl2LConfProfMaxSnrmDs        Unsigned32,
    adsl2LConfProfMaxSnrmUs        Unsigned32,
    adsl2LConfProfMinSnrmDs        Unsigned32,
    adsl2LConfProfMinSnrmUs        Unsigned32,
    adsl2LConfProfMsgMinUs         Unsigned32,
    adsl2LConfProfMsgMinDs         Unsigned32,
    adsl2LConfProfAtuTransSysEna   Adsl2TransmissionModeType,
    adsl2LConfProfPmMode           Adsl2LConfProfPmMode,
    adsl2LConfProfL0Time           Unsigned32,
    adsl2LConfProfL2Time           Unsigned32,
    adsl2LConfProfL2Atpr           Unsigned32,
    adsl2LConfProfL2Atprt          Unsigned32,
    adsl2LConfProfRowStatus        RowStatus
}
```

```
adsl2LConfProfProfileName OBJECT-TYPE
```

```
SYNTAX      SnmpAdminString (SIZE(1..32))
```

```
MAX-ACCESS  not-accessible
```

```
STATUS      current
```

```
DESCRIPTION
```


"This object identifies a row in this table."
 ::= { adsl2LineConfProfEntry 1 }

adsl2LConfProfScMaskDs OBJECT-TYPE

SYNTAX Adsl2ScMaskDs

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Sub-carriers mask. A bitmap of 512 bits, that allows masking up to 512 downstream sub-carriers, depending on NSCds. If bit i ($0 \leq i < \text{NSCds}$) is set to '1' the respective downstream sub-carrier i is masked and if set to '0' the respective sub-carrier is unmasked. Note that there should be always unmasked sub carriers (i.e., the object cannot be all 1's). Also note that in case $\text{NSCds} < 512$ all bits i ($\text{NSCds} \leq i < 512$) should be set to '1'."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.2"

::= { adsl2LineConfProfEntry 2 }

adsl2LConfProfScMaskUs OBJECT-TYPE

SYNTAX Adsl2ScMaskUs

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Sub-carriers mask. A bitmap of 64 bits, that allows masking up to 64 downstream sub-carriers, depending on NSCds. If bit i ($0 \leq i < \text{NSCus}$) is set to '1' the respective upstream sub-carrier i is masked and if set to '0' the respective sub-carrier is unmasked. Note that there should be always unmasked sub carriers (i.e., the object cannot be all 1's). Also note that in case $\text{NSCus} < 64$ all bits i ($\text{NSCus} \leq i < 64$) should be set to '1'."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.2"

::= { adsl2LineConfProfEntry 3 }

adsl2LConfProfRfiBandsDs OBJECT-TYPE

SYNTAX Adsl2RfiDs

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The subset of downstream PSD mask breakpoints that shall be used to notch an RFI band.

The specific interpolation around these points is defined in G.992.5. It is a bitmap of 512 bits, that allows referring to up to 512 downstream sub-carriers, depending on NSCds. If bit i ($0 \leq i < \text{NSCds}$) is set to '1' the respective downstream sub-carrier i is part of a notch filter and if set to '0' the respective sub-carrier is not part of a notch filter. This

information complements the specification provided by
adsl2LconfProfPsdMaskDs.

Note that in case NSCds<512 all bits i (NSCds<i<512)
should be set to '0'. "

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.2"
::= { adsl2LineConfProfEntry 4 }

adsl2LConfProfRaModeDs OBJECT-TYPE

SYNTAX Adsl2RaMode

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The mode of operation of a rate-adaptive ATU?C in the transmit
direction. The parameter can take three values:

manual (1),

raInit (2),

dynamicRa (3)."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.4"

DEFVAL { manual }

::= { adsl2LineConfProfEntry 5 }

adsl2LConfProfRaModeUs OBJECT-TYPE

SYNTAX Adsl2RaMode

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The mode of operation of a rate-adaptive ATU?R in the transmit
direction. The parameter can take three values:

manual (1),

raInit (2),

dynamicRa (3)."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.4"

DEFVAL { manual }

::= { adsl2LineConfProfEntry 6 }

adsl2LConfProfRaUsNrmDs OBJECT-TYPE

SYNTAX Unsigned32(0..310)

UNITS "0.1 dB"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The Downstream Up-Shift Noise Margin value, to be used when
Adsl2LineConfRaModeDs is set to DynamicRa. If the downstream
noise margin is above this value and stays above that for
more than the time specified by the Adsl2LineConfRaUsTimeDs,
the ATU?R shall attempt to increase the downstream net data
rate. The Downstream Up-shift Noise Margin ranges from 0 to
310 units of 0.1 dB (Physical values are 0 to 31 dB)."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.4"
DEFVAL { 10 }
::= { adsl2LineConfProfEntry 7 }

adsl2LConfProfRaUsNrmUs OBJECT-TYPE

SYNTAX Unsigned32(0..310)

UNITS "0.1 dB"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The Upstream Up-Shift Noise Margin value, to be used when Adsl2LineConfRaModeUs is set to DynamicRa. If the upstream noise margin is above this value and stays above that for more than the time specified by the Adsl2LineConfRaUsTimeUs, the ATU?C shall attempt to increase the upstream net data rate. The Upstream Up-shift Noise Margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB)."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.4"

DEFVAL { 10 }

::= { adsl2LineConfProfEntry 8 }

adsl2LConfProfRaUsTimeDs OBJECT-TYPE

SYNTAX Unsigned32(0..16383)

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The Downstream Up-Shift Time Interval, to be used when Adsl2LineConfRaModeDs is set to DynamicRa. The interval of time the downstream noise margin should stay above the Downstream Up-shift Noise Margin before the ATU?R shall attempt to increase the downstream net data rate. The time interval ranges from 0 to 16383 seconds."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.4"

DEFVAL { 3600 }

::= { adsl2LineConfProfEntry 9 }

adsl2LConfProfRaUsTimeUs OBJECT-TYPE

SYNTAX Unsigned32(0..16383)

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The Upstream Up-Shift Time Interval, to be used when Adsl2LineConfRaModeUs is set to DynamicRa. The interval of time the upstream noise margin should stay above the Upstream Up-shift Noise Margin before the ATU?C shall attempt to increase the upstream net data rate. The time

interval ranges from 0 to 16383 seconds."
REFERENCE " ITU-T G.997.1, paragraph 7.3.1.4"
DEFVAL { 3600 }
::= { adsl2LineConfProfEntry 10 }

adsl2LConfProfRaDsNrmsDs OBJECT-TYPE

SYNTAX Unsigned32(0..310)

UNITS "0.1 dB"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The Downstream Down-Shift Noise Margin value, to be used when Adsl2LineConfRaModeDs is set to DynamicRa. If the downstream noise margin is below this value and stays below that for more than the time specified by the Adsl2LineConfRaDsTimeDs, the ATU?R shall attempt to decrease the downstream net data rate. The Downstream Down-shift Noise Margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB)."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.4"

DEFVAL { 10 }

::= { adsl2LineConfProfEntry 11 }

adsl2LConfProfRaDsNrmsUs OBJECT-TYPE

SYNTAX Unsigned32(0..310)

UNITS "0.1 dB"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The Upstream Downshift Noise Margin value, to be used when Adsl2LineConfRaModeUs is set to DynamicRa. If the upstream noise margin is below this value and stays below that for more than the time specified by the Adsl2LineConfRaDsTimeUs, the ATU?C shall attempt to decrease the upstream net data rate. The Upstream Down-shift Noise Margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB)."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.4"

DEFVAL { 10 }

::= { adsl2LineConfProfEntry 12 }

adsl2LConfProfRaDsTimeDs OBJECT-TYPE

SYNTAX Unsigned32(0..16383)

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The Downstream Downshift Time Interval, to be used when Adsl2LineConfRaModeDs is set to DynamicRa. The interval of time the downstream noise margin should stay below the

Downstream Down-shift Noise Margin before the ATU?R shall attempt to decrease the downstream net data rate. The time interval ranges from 0 to 16383 seconds."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.4"

DEFVAL { 3600 }

::= { adsl2LineConfProfEntry 13 }

adsl2LConfProfRaDsTimeUs OBJECT-TYPE

SYNTAX Unsigned32(0..16383)

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The Upstream Down-Shift Time Interval, to be used when Adsl2LineConfRaModeUs is set to DynamicRa. The interval of time the upstream noise margin should stay below the Upstream Down-shift Noise Margin before the ATU?C shall attempt to decrease the upstream net data rate. The time interval ranges from 0 to 16383 seconds."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.4"

DEFVAL { 3600 }

::= { adsl2LineConfProfEntry 14 }

adsl2LConfProfTargetSnrmDs OBJECT-TYPE

SYNTAX Unsigned32(0..310)

UNITS "0.1 dB"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The Noise Margin the ATU?R receiver shall achieve, relative to the BER requirement for each of the downstream bearer channels, or better, to successfully complete initialization. The target noise margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB)."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.3"

DEFVAL { 60 }

::= { adsl2LineConfProfEntry 15 }

adsl2LConfProfTargetSnrmUs OBJECT-TYPE

SYNTAX Unsigned32(0..310)

UNITS "0.1 dB"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The Noise Margin the ATU?C receiver shall achieve, relative to the BER requirement for each of the upstream bearer channels, or better, to successfully complete initialization. The target noise margin ranges from 0 to 310 units of 0.1 dB"

(Physical values are 0 to 31 dB)."
REFERENCE " ITU-T G.997.1, paragraph 7.3.1.3"
DEFVAL { 60 }
::= { adsl2LineConfProfEntry 16 }

adsl2LConfProfMaxSnrmDs OBJECT-TYPE

SYNTAX Unsigned32
UNITS "0.1 dB"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The maximum Noise Margin the ATU?R receiver shall try to sustain. If the Noise Margin is above this level, the ATU-R shall request the ATU?C to reduce the ATU?C transmit power to get a noise margin below this limit (if this functionality is supported). The maximum noise margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB). A value of all 1's means that there is no maximum."
REFERENCE " ITU-T G.997.1, paragraph 7.3.1.3"
DEFVAL { 310 }
::= { adsl2LineConfProfEntry 17 }

adsl2LConfProfMaxSnrmUs OBJECT-TYPE

SYNTAX Unsigned32
UNITS "0.1 dB"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The maximum Noise Margin the ATU?C receiver shall try to sustain. If the Noise Margin is above this level, the ATU-C shall request the ATU?R to reduce the ATU?R transmit power to get a noise margin below this limit (if this functionality is supported). The maximum noise margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB). A value of all 1's means that there is no maximum."
REFERENCE " ITU-T G.997.1, paragraph 7.3.1.3"
DEFVAL { 310 }
::= { adsl2LineConfProfEntry 18 }

adsl2LConfProfMinSnrmDs OBJECT-TYPE

SYNTAX Unsigned32(0..310)
UNITS "0.1 dB"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The minimum Noise Margin the ATU?R receiver shall tolerate. If the noise margin falls below this level, the ATU-R shall request the ATU?C to increase the ATU?C transmit power. If an

increase to ATU-C transmit power is not possible, a loss-of-margin (LOM) defect occurs, the ATU?R shall fail and attempt to reinitialize and the NMS shall be notified. The minimum noise margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB). A value of 0 means that there is no minimum."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.3"

DEFVAL { 10 }

::= { adsl2LineConfProfEntry 19 }

adsl2LConfProfMinSnrmUs OBJECT-TYPE

SYNTAX Unsigned32(0..310)

UNITS "0.1 dB"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The minimum Noise Margin the ATU?C receiver shall tolerate. If the noise margin falls below this level, the ATU-C shall request the ATU-R to increase the ATU?R transmit power. If an increase of ATU-R transmit power is not possible, a loss-of-margin (LOM) defect occurs, the ATU?C shall fail and attempt to re-initialize and the NMS shall be notified. The minimum noise margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB). A value of 0 means that there is no minimum."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.3"

DEFVAL { 10 }

::= { adsl2LineConfProfEntry 20 }

adsl2LConfProfMsgMinUs OBJECT-TYPE

SYNTAX Unsigned32(4000..63000)

UNITS "bits/second"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Minimum Overhead Rate Upstream. Defines the minimum rate of the message-based overhead that shall be maintained by the ATU in upstream direction. Expressed in bits per second and ranges from 4000 to 63000 bps."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.5"

DEFVAL { 4000 }

::= { adsl2LineConfProfEntry 21 }

adsl2LConfProfMsgMinDs OBJECT-TYPE

SYNTAX Unsigned32(4000..63000)

UNITS "bits/second"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Minimum Overhead Rate Downstream. Defines the minimum rate of the message-based overhead that shall be maintained by the ATU in downstream direction. Expressed in bits per second and ranges from 4000 to 63000 bps."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.5"

DEFVAL { 4000 }

::= { adsl2LineConfProfEntry 22 }

adsl2LConfProfAtuTransSysEna OBJECT-TYPE

SYNTAX Adsl2TransmissionModeType

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"ATU Transmission System Enabling (ATSE). A list of the different coding types enabled in this profile. It is coded in a bit-map representation with 1 or more bits set. A bit set to '1' means that the ATUs may apply the respective coding for the ADSL line. A bit set to '0' means that the ATUs cannot apply the respective coding for the ADSL line. All 'reserved' bits should be set to '0'."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.1"

::= { adsl2LineConfProfEntry 23 }

adsl2LConfProfPmMode OBJECT-TYPE

SYNTAX Adsl2LConfProfPmMode

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Power management state Enabling. Defines the power states the ATU-C or ATU-R may autonomously transition to on this line. The various bit positions are: allowTransitionsToIdle (0) and allowTransitionsToLowPower (1). A bit with a '1' value means that the ATU is allowed to transit into the respective state and a '0' value means that the ATU is not allowed to transit into the respective state."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.1"

DEFVAL { { allowTransitionsToIdle, allowTransitionsToLowPower } }

::= { adsl2LineConfProfEntry 24 }

adsl2LConfProfL0Time OBJECT-TYPE

SYNTAX Unsigned32 (0..255)

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This minimum time (in seconds) between an Exit from the L2 state and the next Entry into the L2 state. It ranges from 0

to 255 seconds."
REFERENCE " ITU-T G.997.1, paragraph 7.3.1.1"
DEFVAL { 255 }
::= { adsl2LineConfProfEntry 25 }

adsl2LConfProfL2Time OBJECT-TYPE

SYNTAX Unsigned32 (0..255)
UNITS "seconds"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"This minimum time (in seconds) between an Entry into the
L2 state and the first Power Trim in the L2 state and between
two consecutive Power Trims in the L2 State.
It ranges from 0 to 255 seconds."
REFERENCE " ITU-T G.997.1, paragraph 7.3.1.1"
DEFVAL { 255 }
::= { adsl2LineConfProfEntry 26 }

adsl2LConfProfL2Atpr OBJECT-TYPE

SYNTAX Unsigned32 (0..31)
UNITS "dB"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The maximum aggregate transmit power reduction (in dB) that
can be performed at transition of L0 to L2 state or through a
single Power Trim in the L2 state.
It ranges from 0 dB to 31 dB."
REFERENCE " ITU-T G.997.1 (amendment 1), 7.3.1.7"
DEFVAL { 10 }
::= { adsl2LineConfProfEntry 27 }

adsl2LConfProfL2Atprt OBJECT-TYPE

SYNTAX Unsigned32 (0..31)
UNITS "dB"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The maximum aggregate transmit power reduction (in dB) that
can be performed at a transition from L0 into L2 state or
through a single Power Trim in the L2 state. It ranges from
0 dB to 31 dB."
REFERENCE " ITU-T G.997.1 (amendment 1), 7.3.1.9"
DEFVAL { 31 }
::= { adsl2LineConfProfEntry 28 }

adsl2LConfProfRowStatus OBJECT-TYPE


```
SYNTAX      RowStatus
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "Row Status"
 ::= { adsl2LineConfProfEntry 29 }
```

```
-----
--      adsl2LineConfProfModeSpecTable      --
-----

adsl2LineConfProfModeSpecTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF Adsl2LineConfProfModeSpecEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The table adsl2LineConfProfModeSpecTable extends the
        ADSL2 line configuration profile by ADSL Mode Specific
        parameters.
        A row in this table that has an index of
        adsl2LconfProfAdslMode == defMode(1), is called a
        'mandatory' row.
        A row in this table that has an index such that
        adsl2LconfProfAdslMode is not equal to defMode(1),
        is called an 'optional' row.
        When a row in the adsl2LineConfProfTable table
        ( the parent row ) is created, the SNMP agent will
        automatically create a 'mandatory' row in this table.
        When the parent row is deleted, the SNMP agent will
        automatically delete all associated rows in this table.
        Any attempt to delete the 'mandatory' row using the
        adsl2LconfProfModeSpecRowStatus attribute will be
        rejected by the SNMP agent.
        The manager MAY create an 'optional' row in this table
        using the adsl2LConfProfModeSpecRowStatus attribute if
        the parent row exists.
        The manager MAY delete an 'optional' row in this table
        using the adsl2LConfProfModeSpecRowStatus attribute at
        any time.
        If the actual transmission mode of a DSL line does not
        match one of the 'optional' rows in this table, then
        the line will use the PSD configuration from the
        'mandatory' row."
 ::= { adsl2ProfileLine 3 }
```

```
adsl2LineConfProfModeSpecEntry  OBJECT-TYPE
    SYNTAX      Adsl2LineConfProfModeSpecEntry
    MAX-ACCESS  not-accessible
```


STATUS current

DESCRIPTION

" The table adsl2LineConfProfModeSpecTable extends the ADSL2 line configuration profile by ADSL Mode Specific parameters."

INDEX { adsl2LConfProfProfileName, adsl2LConfProfAdslMode }
::= { adsl2LineConfProfModeSpecTable 1 }

Adsl2LineConfProfModeSpecEntry ::=

SEQUENCE {
 adsl2LConfProfAdslMode Adsl2OperationModes,
 adsl2LConfProfMaxNomPsdDs Integer32,
 adsl2LConfProfMaxNomPsdUs Integer32,
 adsl2LConfProfMaxNomAtpDs Unsigned32,
 adsl2LConfProfMaxNomAtpUs Unsigned32,
 adsl2LConfProfMaxAggRxPwrUs Integer32,
 adsl2LConfProfPsdMaskDs Adsl2PsdMaskDs,
 adsl2LConfProfPsdMaskUs Adsl2PsdMaskUs,
 adsl2LConfProfPsdMaskSelectUs Unsigned32,
 adsl2LConfProfModeSpecRowStatus RowStatus
}

adsl2LConfProfAdslMode OBJECT-TYPE

SYNTAX Adsl2OperationModes

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The ADSL Mode is a way of categorizing the various ADSL transmission modes into groups, each group (ADSL Mode) share the same PSD configuration.

There should be multiple entries in this table for a given line profile in case multiple bits are set in adsl2LConfProfAtuTransSysEna for that profile. "

REFERENCE " DSL Forum TR-90, paragraph 5.1.8"

::= { adsl2LineConfProfModeSpecEntry 1 }

adsl2LConfProfMaxNomPsdDs OBJECT-TYPE

SYNTAX Integer32(-600..-300)

UNITS "0.1 dBm/Hz"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The maximum nominal transmit PSD in the downstream direction during initialization and Showtime. It ranges from -600 to -300 units of 0.1 dBm/Hz. (physical values are -60 to -30 dBm/Hz). "

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.2"

DEFVAL { -300 }


```
::= { adsl2LineConfProfModeSpecEntry 2 }
```

adsl2LConfProfMaxNomPsdUs OBJECT-TYPE

SYNTAX Integer32(-600..-300)

UNITS "0.1 dBm/Hz"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The maximum nominal transmit PSD in the upstream direction during initialization and Showtime. It ranges from -600 to -300 units of 0.1 dBm/Hz. (physical values are -60 to -30 dBm/Hz)."

REFERENCE "ITU-T G.997.1, paragraph 7.3.1.2"

DEFVAL { -300 }

```
::= { adsl2LineConfProfModeSpecEntry 3 }
```

adsl2LConfProfMaxNomAtpDs OBJECT-TYPE

SYNTAX Unsigned32 (0..255)

UNITS "0.1 dBm"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The maximum nominal aggregate transmit power in the downstream direction during initialization and Showtime. It ranges from 0 to 255 units of 0.1 dBm (physical values are 0 to 25.5 dBm)."

REFERENCE "ITU-T G.997.1, paragraph 7.3.1.2"

DEFVAL { 255 }

```
::= { adsl2LineConfProfModeSpecEntry 4 }
```

adsl2LConfProfMaxNomAtpUs OBJECT-TYPE

SYNTAX Unsigned32 (0..255)

UNITS "0.1 dBm"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The maximum nominal aggregate transmit power in the upstream direction during initialization and Showtime. It ranges from 0 to 255 units of 0.1 dBm (physical values are 0 to 25.5 dBm)."

REFERENCE "ITU-T G.997.1, paragraph 7.3.1.2"

DEFVAL { 255 }

```
::= { adsl2LineConfProfModeSpecEntry 5 }
```

adsl2LConfProfMaxAggRxPwrUs OBJECT-TYPE

SYNTAX Integer32(-255..2147483647)

UNITS "0.1 dBm"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The maximum upstream aggregate receive power over the relevant set of sub-carriers. The ATU-C should verify that the upstream power cutback is such that this maximum aggregate receive power value is honored. It ranges from -255 to 255 units of 0.1 dBm (physical values are -25.5 to 25.5 dBm).

A value of all ones means that there is no limit."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.2"

DEFVAL { 255 }

::= { adsl2LineConfProfModeSpecEntry 6 }

adsl2LConfProfPsdMaskDs OBJECT-TYPE

SYNTAX Adsl2PsdMaskDs

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The downstream PSD mask applicable at the U-C2 reference point.

This parameter is used only for G.992.5 and it may impose PSD restrictions (breakpoints) in addition to the Limit PSD mask defined in G.992.5.

This is a string of 32 pairs of values in the following structure:

Octets 0+1 - Index of 1st sub-carrier used in the context of a first breakpoint.

Octet 2 - The PSD reduction for the sub-carrier indicated in octets 0 and 1.

Octets 3-5 - Same, for a 2nd breakpoint.

Octets 6-8 - Same, for a 3rd breakpoint.

This architecture continues and until octets 94-95 that are associated with a 32nd breakpoint.

Each subcarrier index is an unsigned number in the range 1 and NSCds. Each PSD reduction value is in the range 0 (0dBm/Hz) to 255 (-127.5dBm/Hz) with steps of 0.5dBm/Hz. Valid values are in the range 0 to 190 (0 to -95dBm/Hz).

When the number of breakpoints is less than 32 all remaining octets are set to the value 0. Note that the content of this object should be correlated with the sub-carriers mask and with the RFI setup. "

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.2"

::= { adsl2LineConfProfModeSpecEntry 7 }

adsl2LConfProfPsdMaskUs OBJECT-TYPE

SYNTAX Adsl2PsdMaskUs

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The downstream PSD mask applicable at the U-R2 reference point.

This parameter is used only for G.992.5 and it may impose PSD restrictions (breakpoints) in addition to the Limit PSD mask defined in G.992.5.

This is a string of 16 pairs of values in the following structure:

Octets 0+1 - Index of 1st sub-carrier used in the context of a first breakpoint.

Octet 2 - The PSD reduction for the sub-carrier indicated in octets 0 and 1.

Octets 3-5 - Same, for a 2nd breakpoint.

Octets 6-8 - Same, for a 3rd breakpoint.

This architecture continues and until octets 46-47 that are associated with a 16th breakpoint.

Each subcarrier index is an unsigned number in the range 1 and NSCus. Each PSD reduction value is in the range 0 (0dBm/Hz) to 255 (-127.5dBm/Hz) with steps of 0.5dBm/Hz. Valid values are in the range 0 to 190 (0 to -95dBm/Hz).

When the number of breakpoints is less than 16 all remaining octets are set to the value 0. Note that the content of this object should be correlated with the sub-carriers mask and with the RFI setup. "

REFERENCE " ITU-T G.997.1, paragraph 7.3.1.2"
 ::= { adsl2LineConfProfModeSpecEntry 8 }

adsl2LConfProfPsdMaskSelectUs OBJECT-TYPE

SYNTAX Unsigned32(1..9)

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The selected upstream PSD mask. This parameter is used only for annexes J and M of G.992.3 and G.992.5 and the same selection is used for all relevant enabled bits in adsl2LConfProfAtuTransSysEna. "

REFERENCE " ITU-T G.997.1 (amendment 1), 7.3.1.10"

DEFVAL { 1 }

::= { adsl2LineConfProfModeSpecEntry 9 }

adsl2LConfProfModeSpecRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Row Status"

::= { adsl2LineConfProfModeSpecEntry 10 }

```

--          adsl2ChConfProfileTable          --
-----
adsl2ChConfProfileTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF Adsl2ChConfProfileEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The table adsl2ChConfProfileTable contains ADSL2 channel
        profile configuration."
    ::= { adsl2ProfileChannel 1 }

adsl2ChConfProfileEntry  OBJECT-TYPE
    SYNTAX      Adsl2ChConfProfileEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The table adsl2ChConfProfileTable contains ADSL2 channel
        profile configuration.
        A default profile with an index of 'DEFVAL', will
        always exist and its parameters will be set to vendor
        specific values, unless otherwise specified in this
        document"
    INDEX { adsl2ChConfProfProfileName }
    ::= { adsl2ChConfProfileTable 1 }

Adsl2ChConfProfileEntry ::=
    SEQUENCE {
        adsl2ChConfProfProfileName          SnmpAdminString,
        adsl2ChConfProfMinDataRateDs        Unsigned32,
        adsl2ChConfProfMinDataRateUs        Unsigned32,
        adsl2ChConfProfMinResDataRateDs     Unsigned32,
        adsl2ChConfProfMinResDataRateUs     Unsigned32,
        adsl2ChConfProfMaxDataRateDs        Unsigned32,
        adsl2ChConfProfMaxDataRateUs        Unsigned32,
        adsl2ChConfProfMinDataRateLowPwrDs  Unsigned32,
        adsl2ChConfProfMinDataRateLowPwrUs  Unsigned32,
        adsl2ChConfProfMaxDelayDs           Unsigned32,
        adsl2ChConfProfMaxDelayUs           Unsigned32,
        adsl2ChConfProfMinProtectionDs      Adsl2SymbolProtection,
        adsl2ChConfProfMinProtectionUs      Adsl2SymbolProtection,
        adsl2ChConfProfMaxBerDs             Adsl2MaxBer,
        adsl2ChConfProfMaxBerUs             Adsl2MaxBer,
        adsl2ChConfProfUsDataRateDs         Unsigned32,
        adsl2ChConfProfDsDataRateDs         Unsigned32,
        adsl2ChConfProfUsDataRateUs         Unsigned32,
        adsl2ChConfProfDsDataRateUs         Unsigned32,
        adsl2ChConfProfImaEnabled           TruthValue,
        adsl2ChConfProfRowStatus            RowStatus
    }

```



```
}
```

```
adsl2ChConfProfProfileName OBJECT-TYPE
```

```
SYNTAX      SnmpAdminString (SIZE(1..32))
```

```
MAX-ACCESS  not-accessible
```

```
STATUS      current
```

```
DESCRIPTION
```

```
    "This object identifies a row in this table."
```

```
::= { adsl2ChConfProfileEntry 1 }
```

```
adsl2ChConfProfMinDataRateDs OBJECT-TYPE
```

```
SYNTAX      Unsigned32(0..50000000)
```

```
UNITS       "bits/second"
```

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

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Minimum Data Rate on Downstream direction. The minimum net  
    data rate for the bearer channel, coded in bit/s."
```

```
REFERENCE   " ITU-T G.997.1, paragraph 7.3.2.1"
```

```
::= { adsl2ChConfProfileEntry 2 }
```

```
adsl2ChConfProfMinDataRateUs OBJECT-TYPE
```

```
SYNTAX      Unsigned32(0..50000000)
```

```
UNITS       "bits/second"
```

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

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Minimum Data Rate on Upstream direction. The minimum net data  
    rate for the bearer channel, coded in bit/s."
```

```
REFERENCE   " ITU-T G.997.1, paragraph 7.3.2.1"
```

```
::= { adsl2ChConfProfileEntry 3 }
```

```
adsl2ChConfProfMinResDataRateDs OBJECT-TYPE
```

```
SYNTAX      Unsigned32(0..50000000)
```

```
UNITS       "bits/second"
```

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

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Minimum Reserved Data Rate on Downstream direction. The  
    minimum reserved net data rate for the bearer channel, coded  
    in bit/s. This parameter is used only if the Rate Adaptation  
    Mode in the direction of the bearer channel (i.e.,  
    Adsl2LineConfRaModeDs) is set to DynamicRa."
```

```
REFERENCE   " ITU-T G.997.1, paragraph 7.3.2.1"
```

```
::= { adsl2ChConfProfileEntry 4 }
```

```
adsl2ChConfProfMinResDataRateUs OBJECT-TYPE
```

```
SYNTAX      Unsigned32(0..50000000)
```


UNITS "bits/second"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"Minimum Reserved Data Rate on Upstream direction. The minimum reserved net data rate for the bearer channel, coded in bit/s. This parameter is used only if the Rate Adaptation Mode in the direction of the bearer channel (i.e., Adsl2LineConfRaModeUs) is set to DynamicRa."
REFERENCE "ITU-T G.997.1, paragraph 7.3.2.1"
::= { adsl2ChConfProfileEntry 5 }

adsl2ChConfProfMaxDataRateDs OBJECT-TYPE

SYNTAX Unsigned32(0..50000000)
UNITS "bits/second"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"Maximum Data Rate on Downstream direction. The maximum net data rate for the bearer channel, coded in bit/s."
REFERENCE "ITU-T G.997.1, paragraph 7.3.2.1"
::= { adsl2ChConfProfileEntry 6 }

adsl2ChConfProfMaxDataRateUs OBJECT-TYPE

SYNTAX Unsigned32(0..50000000)
UNITS "bits/second"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"Maximum Data Rate on Upstream direction. The maximum net data rate for the bearer channel, coded in bit/s."
REFERENCE "ITU-T G.997.1, paragraph 7.3.2.1"
::= { adsl2ChConfProfileEntry 7 }

adsl2ChConfProfMinDataRateLowPwrDs OBJECT-TYPE

SYNTAX Unsigned32(0..50000000)
UNITS "bits/second"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"Minimum Data Rate in Low Power state on Downstream direction. The minimum net data rate for the bearer channel, coded in bit/s., during the low power state (L1 in G.992.2, L2 in G.992.3)."
REFERENCE "ITU-T G.997.1, paragraph 7.3.2.1"
::= { adsl2ChConfProfileEntry 8 }

adsl2ChConfProfMinDataRateLowPwrUs OBJECT-TYPE

SYNTAX Unsigned32(0..50000000)
UNITS "bits/second"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
 "Minimum Data Rate in Low Power state on Upstream direction.
 The minimum net data rate for the bearer channel, coded in
 bit/s., during the low power state (L1 in G.992.2, L2 in
 G.992.3)."
REFERENCE " ITU-T G.997.1, paragraph 7.3.2.1"
::= { adsl2ChConfProfileEntry 9 }

adsl2ChConfProfMaxDelayDs OBJECT-TYPE

SYNTAX Unsigned32(0..64)
UNITS "milliseconds"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
 "Maximum Interleave Delay on Downstream direction. The maximum
 one-way interleaving delay introduced by the PMS-TC on
 Downstream direction. The ATUs shall choose the S (factor)
 and D (depth) values such that the actual one-way interleaving
 delay (Adsl2ChanStatusActDelay) is as close to but less or
 equal than Adsl2ChanConfMaxDelayDs. The delay is coded in ms,
 with the value 0 indicating no delay bound is being imposed."
REFERENCE " ITU-T G.997.1, paragraph 7.3.2.2"
::= { adsl2ChConfProfileEntry 10 }

adsl2ChConfProfMaxDelayUs OBJECT-TYPE

SYNTAX Unsigned32(0..64)
UNITS "milliseconds"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
 "Maximum Interleave Delay on Upstream direction. The maximum
 one-way interleaving delay introduced by the PMS-TC on
 Upstream direction. The ATUs shall choose the S (factor) and
 D (depth) values such that the actual one-way interleaving
 delay (Adsl2ChanStatusActDelay) is as close to but less or
 equal than Adsl2ChanConfMaxDelayUs. The delay is coded in
 ms, with the value 0 indicating no delay bound is being
 imposed."
REFERENCE " ITU-T G.997.1, paragraph 7.3.2.2"
::= { adsl2ChConfProfileEntry 11 }

adsl2ChConfProfMinProtectionDs OBJECT-TYPE

SYNTAX Adsl2SymbolProtection
UNITS "symbols"

MAX-ACCESS read-create
STATUS current
DESCRIPTION
"Minimum Impulse Noise Protection on Downstream direction. The minimum impulse noise protection for the bearer channel, expressed in symbols. The parameter can take the following values: noProtection (i.e., INP not required), halfSymbol (i.e., INP length is 1/2 symbol) and 1-16 symbols in steps of 1 symbol."
REFERENCE " ITU-T G.997.1, paragraph 7.3.2.3"
DEFVAL { noProtection }
::= { adsl2ChConfProfileEntry 12 }

adsl2ChConfProfMinProtectionUs OBJECT-TYPE

SYNTAX Adsl2SymbolProtection
UNITS "symbols"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"Minimum Impulse Noise Protection on Upstream direction. The minimum impulse noise protection for the bearer channel, expressed in symbols. The parameter can take the following values:
noProtection (1),
halfSymbol (2),
singleSymbol (3),
twoSymbols (4),
fourSymbols (5),
eightSymbols (6),
sixteenSymbols (7)."
REFERENCE " ITU-T G.997.1, paragraph 7.3.2.3"
DEFVAL { noProtection }
::= { adsl2ChConfProfileEntry 13 }

adsl2ChConfProfMaxBerDs OBJECT-TYPE

SYNTAX Adsl2MaxBer
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"Maximum Bit Error Ratio on Downstream direction. The maximum bit error ratio for the bearer channel. The parameter can take the following values (for 1E-3, 1E-5 or 1E-7):
eminus3 (1),
eminus5 (2),
eminus7 (3)"
REFERENCE " ITU-T G.997.1, paragraph 7.3.2.4"
DEFVAL { eminus5 }
::= { adsl2ChConfProfileEntry 14 }

adsl2ChConfProfMaxBerUs OBJECT-TYPE

SYNTAX Adsl2MaxBer

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Maximum Bit Error Ratio on Upstream direction. The maximum bit error ratio for the bearer channel. The parameter can take the following values (for 1E-3, 1E-5 or 1E-7):

eminus3 (1),

eminus5 (2),

eminus7 (3)"

REFERENCE " ITU-T G.997.1, paragraph 7.3.2.4"

DEFVAL { eminus5 }

::= { adsl2ChConfProfileEntry 15 }

adsl2ChConfProfUsDataRateDs OBJECT-TYPE

SYNTAX Unsigned32(0..50000000)

UNITS "bits/second"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Data Rate Threshold Up shift for downstream direction. An 'Up-shift rate change' event is triggered when the actual downstream data rate exceeds, by more than the threshold, the data rate at the last entry into Showtime. The parameter is coded in bit/s."

REFERENCE " ITU-T G.997.1, paragraph 7.3.2.6"

::= { adsl2ChConfProfileEntry 16 }

adsl2ChConfProfDsDataRateDs OBJECT-TYPE

SYNTAX Unsigned32(0..50000000)

UNITS "bits/second"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Data Rate Threshold Downshift for downstream direction. A 'Down-shift rate change' event is triggered when the actual downstream data rate is below the data rate at the last entry into Showtime, by more than the threshold. The parameter is coded in bit/s."

REFERENCE " ITU-T G.997.1, paragraph 7.3.2.6"

::= { adsl2ChConfProfileEntry 17 }

adsl2ChConfProfUsDataRateUs OBJECT-TYPE

SYNTAX Unsigned32(0..50000000)

UNITS "bits/second"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Data Rate Threshold Up shift for upstream direction. An 'Up-shift rate change' event is triggered when the actual upstream data rate exceeds, by more than the threshold, the data rate at the last entry into Showtime. The parameter is coded in bit/s."

REFERENCE " ITU-T G.997.1, paragraph 7.3.2.6"

::= { adsl2ChConfProfileEntry 18 }

adsl2ChConfProfDsDataRateUs OBJECT-TYPE

SYNTAX Unsigned32(0..50000000)

UNITS "bits/second"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Data Rate Threshold Downshift for upstream direction. A 'Down-shift rate change' event is triggered when the actual upstream data rate is below the data rate at the last entry into Showtime, by more than the threshold. The parameter is coded in bit/s."

REFERENCE " ITU-T G.997.1, paragraph 7.3.2.6"

::= { adsl2ChConfProfileEntry 19 }

adsl2ChConfProfImaEnabled OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"IMA Mode Enable. The parameter enables the IMA operation mode in the ATM Data Path. Relevant only if the channel is of ATM Data Path. When in 'enable' state the ATM data path should comply with the requirements for IMA transmission."

REFERENCE " ITU-T G.997.1, paragraph 7.3.4.1"

DEFVAL { false }

::= { adsl2ChConfProfileEntry 20 }

adsl2ChConfProfRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Row Status"

::= { adsl2ChConfProfileEntry 21 }

-- adsl2LineAlarmConfTemplateTable --

adsl2LineAlarmConfTemplateTable OBJECT-TYPE


```
SYNTAX      SEQUENCE OF Adsl2LineAlarmConfTemplateEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "The table adsl2LineConfTemplateTable contains ADSL2 line
    configuration template."
 ::= { adsl2ProfileAlarmConf 1 }
```

```
adsl2LineAlarmConfTemplateEntry  OBJECT-TYPE
SYNTAX      Adsl2LineAlarmConfTemplateEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "The table adsl2LineAlarmConfTemplateTable contains ADSL2
    line PM thresholds template.
    A default template with an index of 'DEFVAL', will
    always exist and its parameters will be set to vendor
    specific values, unless otherwise specified in this
    document"
INDEX { adsl2LAlarmConfTempTemplateName }
 ::= { adsl2LineAlarmConfTemplateTable 1 }
```

```
Adsl2LineAlarmConfTemplateEntry ::=
SEQUENCE {
    adsl2LAlarmConfTempTemplateName      SnmpAdminString ,
    adsl2LAlarmConfTempLineProfile       SnmpAdminString,
    adsl2LAlarmConfTempChan1ConfProfile  SnmpAdminString,
    adsl2LAlarmConfTempChan2ConfProfile  SnmpAdminString,
    adsl2LAlarmConfTempChan3ConfProfile  SnmpAdminString,
    adsl2LAlarmConfTempChan4ConfProfile  SnmpAdminString,
    adsl2LAlarmConfTempRowStatus         RowStatus
}
```

```
adsl2LAlarmConfTempTemplateName  OBJECT-TYPE
SYNTAX      SnmpAdminString (SIZE(1..32))
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "This object identifies a row in this table."
 ::= { adsl2LineAlarmConfTemplateEntry 1 }
```

```
adsl2LAlarmConfTempLineProfile  OBJECT-TYPE
SYNTAX      SnmpAdminString (SIZE(1..32))
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "The value of this object identifies the row in the ADSL2 Line
    Thresholds Configuration Profile Table,
```



```
        (adsl2LineAlarmConfProfileTable), which applies for this ADSL2
        line."
REFERENCE      " DSL Forum TR-90, paragraph 5.4.1"
DEFVAL         { "DEFVAL" }
::= { adsl2LineAlarmConfTemplateEntry 2 }

adsl2LAlarmConfTempChan1ConfProfile  OBJECT-TYPE
SYNTAX         SnmpAdminString (SIZE(1..32))
MAX-ACCESS     read-create
STATUS         current
DESCRIPTION    "The value of this object identifies the row in the ADSL2
Channel Thresholds Configuration Profile Table,
(adsl2ChAlarmConfProfileTable), which applies for ADSL2
bearer channel #1. The channel profile name specified here
must match the name of an existing row in the
adsl2ChAlarmConfProfileTable table."
REFERENCE      " DSL Forum TR-90, paragraph 5.4.1"
DEFVAL         { "DEFVAL" }
::= { adsl2LineAlarmConfTemplateEntry 3 }

adsl2LAlarmConfTempChan2ConfProfile  OBJECT-TYPE
SYNTAX         SnmpAdminString (SIZE(0..32))
MAX-ACCESS     read-create
STATUS         current
DESCRIPTION    "The value of this object identifies the row in the ADSL2
Channel Thresholds Configuration Profile Table,
(adsl2ChAlarmConfProfileTable), which applies for ADSL2
bearer channel #2. The channel profile name specified here
must match the name of an existing row in the
adsl2ChAlarmConfProfileTable table. If channel is unused
then the object is set to a zero length string."
REFERENCE      " DSL Forum TR-90, paragraph 5.4.1"
DEFVAL         { "" }
::= { adsl2LineAlarmConfTemplateEntry 4 }

adsl2LAlarmConfTempChan3ConfProfile  OBJECT-TYPE
SYNTAX         SnmpAdminString (SIZE(0..32))
MAX-ACCESS     read-create
STATUS         current
DESCRIPTION    "The value of this object identifies the row in the ADSL2
Channel Thresholds Configuration Profile Table,
(adsl2ChAlarmConfProfileTable), which applies for ADSL2
bearer channel #3. The channel profile name specified here
must match the name of an existing row in the
adsl2ChAlarmConfProfileTable table."
```


This object may be set to a non zero length string only if
adsl2LAlarmConfTempChan2ConfProfile contains a non zero
length string."

REFERENCE " DSL Forum TR-90, paragraph 5.4.1"

DEFVAL { "" }

::= { adsl2LineAlarmConfTemplateEntry 5 }

adsl2LAlarmConfTempChan4ConfProfile OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(0..32))

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The value of this object identifies the row in the ADSL2
Channel Thresholds Configuration Profile Table,
(adsl2ChAlarmConfProfileTable), which applies for ADSL2
bearer channel #4. The channel profile name specified here
must match the name of an existing row in the
adsl2ChAlarmConfProfileTable table.

This object may be set to a non zero length string only if
adsl2LAlarmConfTempChan3ConfProfile contains a non zero
length string."

REFERENCE " DSL Forum TR-90, paragraph 5.4.1"

DEFVAL { "" }

::= { adsl2LineAlarmConfTemplateEntry 6 }

adsl2LAlarmConfTempRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Row Status."

::= { adsl2LineAlarmConfTemplateEntry 7 }

```
-----
--      adsl2LineAlarmConfProfileTable      --
-----
```

adsl2LineAlarmConfProfileTable OBJECT-TYPE

SYNTAX SEQUENCE OF Adsl2LineAlarmConfProfileEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2LineAlarmConfProfileTable contains ADSL2
line PM thresholds profiles."

::= { adsl2ProfileAlarmConf 2 }

adsl2LineAlarmConfProfileEntry OBJECT-TYPE

SYNTAX Adsl2LineAlarmConfProfileEntry


```

MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
  "The table adsl2LineAlarmConfProfileTable contains ADSL2
  line PM thresholds profiles.
  A default profile with an index of 'DEFVAL', will
  always exist and its parameters will be set to vendor
  specific values, unless otherwise specified in this
  document"
INDEX { adsl2LineAlarmConfProfileName }
 ::= { adsl2LineAlarmConfProfileTable 1 }

```

```

Adsl2LineAlarmConfProfileEntry ::=
  SEQUENCE {
    adsl2LineAlarmConfProfileName          SnmpAdminString,
    adsl2LineAlarmConfProfileAtucThresh15MinFecSeconds  INTEGER,
    adsl2LineAlarmConfProfileAtucThresh15MinEs         INTEGER,
    adsl2LineAlarmConfProfileAtucThresh15MinSes        INTEGER,
    adsl2LineAlarmConfProfileAtucThresh15MinLoss       INTEGER,
    adsl2LineAlarmConfProfileAtucThresh15MinUas        INTEGER,
    adsl2LineAlarmConfProfileAturThresh15MinFecSeconds  INTEGER,
    adsl2LineAlarmConfProfileAturThresh15MinEs         INTEGER,
    adsl2LineAlarmConfProfileAturThresh15MinSes        INTEGER,
    adsl2LineAlarmConfProfileAturThresh15MinLoss       INTEGER,
    adsl2LineAlarmConfProfileAturThresh15MinUas        INTEGER,

    adsl2LineAlarmConfProfileThresh15MinFailedFullInt  INTEGER,
    adsl2LineAlarmConfProfileThresh15MinFailedShrtInt  INTEGER,

    adsl2LineAlarmConfProfileRowStatus                RowStatus
  }

```

```

adsl2LineAlarmConfProfileName  OBJECT-TYPE
  SYNTAX      SnmpAdminString (SIZE(1..32))
  MAX-ACCESS  not-accessible
  STATUS      current
  DESCRIPTION
    "This object identifies a row in this table."
  ::= { adsl2LineAlarmConfProfileEntry 1 }

```

```

adsl2LineAlarmConfProfileAtucThresh15MinFecSeconds  OBJECT-TYPE
  SYNTAX      INTEGER
  UNITS       "seconds"
  MAX-ACCESS  read-create
  STATUS      current
  DESCRIPTION
    " A threshold for the adsl2PMLCurr15MFecSeconds counter,
    when adsl2PMLCurrUnit is ATUC {1}."

```


The value 0 means that no threshold is specified for the associated counter."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1"

DEFVAL { 0 }

::= { adsl2LineAlarmConfProfileEntry 2 }

adsl2LineAlarmConfProfileAtucThresh15MinEs OBJECT-TYPE

SYNTAX INTEGER

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

" A threshold for the adsl2PMLCurr15MEs counter, when adsl2PMLCurrUnit is ATUC {1}.

The value 0 means that no threshold is specified for the associated counter."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1"

DEFVAL { 0 }

::= { adsl2LineAlarmConfProfileEntry 3 }

adsl2LineAlarmConfProfileAtucThresh15MinSes OBJECT-TYPE

SYNTAX INTEGER

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

" A threshold for the adsl2PMLCurr15MSes counter, when adsl2PMLCurrUnit is ATUC {1}.

The value 0 means that no threshold is specified for the associated counter."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1"

DEFVAL { 0 }

::= { adsl2LineAlarmConfProfileEntry 4 }

adsl2LineAlarmConfProfileAtucThresh15MinLoss OBJECT-TYPE

SYNTAX INTEGER

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

" A threshold for the adsl2PMLCurr15MLoss counter, when adsl2PMLCurrUnit is ATUC {1}.

The value 0 means that no threshold is specified for the associated counter."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1"

DEFVAL { 0 }

::= { adsl2LineAlarmConfProfileEntry 5 }

adsl2LineAlarmConfProfileAtucThresh15MinUas OBJECT-TYPE

SYNTAX INTEGER
UNITS "seconds"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
" A threshold for the adsl2PMLCurr15MUas counter,
when adsl2PMLCurrUnit is ATUC {1}.
The value 0 means that no threshold is specified for the
associated counter."
REFERENCE " ITU-T G.997.1, paragraph 7.3.1"
DEFVAL { 0 }
::= { adsl2LineAlarmConfProfileEntry 6 }

adsl2LineAlarmConfProfileAturThresh15MinFecSeconds OBJECT-TYPE

SYNTAX INTEGER
UNITS "seconds"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
" A threshold for the adsl2PMLCurr15MFecSeconds counter,
when adsl2PMLCurrUnit is ATUR {2}.
The value 0 means that no threshold is specified for the
associated counter."
REFERENCE " ITU-T G.997.1, paragraph 7.3.1"
DEFVAL { 0 }
::= { adsl2LineAlarmConfProfileEntry 7 }

adsl2LineAlarmConfProfileAturThresh15MinEs OBJECT-TYPE

SYNTAX INTEGER
UNITS "seconds"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
" A threshold for the adsl2PMLCurr15MEs counter,
when adsl2PMLCurrUnit is ATUR {2}.
The value 0 means that no threshold is specified for the
associated counter."
REFERENCE " ITU-T G.997.1, paragraph 7.3.1"
DEFVAL { 0 }
::= { adsl2LineAlarmConfProfileEntry 8 }

adsl2LineAlarmConfProfileAturThresh15MinSes OBJECT-TYPE

SYNTAX INTEGER
UNITS "seconds"
MAX-ACCESS read-create
STATUS current
DESCRIPTION

" A threshold for the adsl2PMLCurr15MSes counter,
when adsl2PMLCurrUnit is ATUR {2}.
The value 0 means that no threshold is specified for the
associated counter."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1"

DEFVAL { 0 }

::= { adsl2LineAlarmConfProfileEntry 9 }

adsl2LineAlarmConfProfileAturThresh15MinLoss OBJECT-TYPE

SYNTAX INTEGER

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

" A threshold for the adsl2PMLCurr15MLoss counter,
when adsl2PMLCurrUnit is ATUR {2}.
The value 0 means that no threshold is specified for the
associated counter."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1"

DEFVAL { 0 }

::= { adsl2LineAlarmConfProfileEntry 10 }

adsl2LineAlarmConfProfileAturThresh15MinUas OBJECT-TYPE

SYNTAX INTEGER

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

" A threshold for the adsl2PMLCurr15MUas counter,
when adsl2PMLCurrUnit is ATUR {2}.
The value 0 means that no threshold is specified for the
associated counter."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1"

DEFVAL { 0 }

::= { adsl2LineAlarmConfProfileEntry 11 }

adsl2LineAlarmConfProfileThresh15MinFailedFullInt OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-create

STATUS current

DESCRIPTION

" A threshold for the adsl2PMLCurrInit15MfailedFullInits
counter.
The value 0 means that no threshold is specified for the
associated counter."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1"

DEFVAL { 0 }

::= { adsl2LineAlarmConfProfileEntry 12 }

adsl2LineAlarmConfProfileThresh15MinFailedShrtInt OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"A threshold for the adsl2PMLCurrInit15MFailedShortInits counter.

The value 0 means that no threshold is specified for the associated counter."

REFERENCE " ITU-T G.997.1, paragraph 7.3.1"

DEFVAL { 0 }

::= { adsl2LineAlarmConfProfileEntry 13 }

adsl2LineAlarmConfProfileRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"Row Status"

::= { adsl2LineAlarmConfProfileEntry 14 }

-- adsl2ChAlarmConfProfileTable --

adsl2ChAlarmConfProfileTable OBJECT-TYPE

SYNTAX SEQUENCE OF Adsl2ChAlarmConfProfileEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2ChAlarmConfProfileTable contains ADSL2 channel PM thresholds profiles."

::= { adsl2ProfileAlarmConf 3 }

adsl2ChAlarmConfProfileEntry OBJECT-TYPE

SYNTAX Adsl2ChAlarmConfProfileEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2ChAlarmConfProfileTable contains ADSL2 channel PM thresholds profiles.

A default profile with an index of 'DEFVAL', will always exist and its parameters will be set to vendor specific values, unless otherwise specified in this document"

INDEX { adsl2ChAlarmConfProfileName }

::= { adsl2ChAlarmConfProfileTable 1 }

Adsl2ChAlarmConfProfileEntry ::=

```
SEQUENCE {
    adsl2ChAlarmConfProfileName          SnmpAdminString,
    adsl2ChAlarmConfProfileAtucThresh15MinCodingViolations
                                                INTEGER,
    adsl2ChAlarmConfProfileAtucThresh15MinCorrected    INTEGER,
    adsl2ChAlarmConfProfileAturThresh15MinCodingViolations
                                                INTEGER,
    adsl2ChAlarmConfProfileAturThresh15MinCorrected    INTEGER,

    adsl2ChAlarmConfProfileRowStatus          RowStatus
}
```

adsl2ChAlarmConfProfileName OBJECT-TYPE

```
SYNTAX      SnmpAdminString (SIZE(1..32))
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "This object identifies a row in this table."
 ::= { adsl2ChAlarmConfProfileEntry 1 }
```

adsl2ChAlarmConfProfileAtucThresh15MinCodingViolations OBJECT-TYPE

```
SYNTAX      INTEGER
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "A threshold for the adsl2PMChCurr15McodingViolations
    counter, when adsl2PMChCurrUnit is ATUC {1}.
    The value 0 means that no threshold is specified for the
    associated counter."
REFERENCE   " ITU-T G.997.1, paragraph 7.3.2"
DEFVAL      { 0 }
 ::= { adsl2ChAlarmConfProfileEntry 2 }
```

adsl2ChAlarmConfProfileAtucThresh15MinCorrected OBJECT-TYPE

```
SYNTAX      INTEGER
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "A threshold for the adsl2PMChCurr15MCorrectedBlocks
    counter, when adsl2PMChCurrUnit is ATUC {1}.
    The value 0 means that no threshold is specified for the
    associated counter."
REFERENCE   " ITU-T G.997.1, paragraph 7.3.2"
DEFVAL      { 0 }
 ::= { adsl2ChAlarmConfProfileEntry 3 }
```

adsl2ChAlarmConfProfileAturThresh15MinCodingViolations OBJECT-TYPE


```
SYNTAX      INTEGER
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
  "A threshold for the adsl2PMChCurr15McodingViolations
  counter, when adsl2PMChCurrUnit is ATUR {2}.
  The value 0 means that no threshold is specified for the
  associated counter."
REFERENCE   " ITU-T G.997.1, paragraph 7.3.2"
DEFVAL      { 0 }
 ::= { adsl2ChAlarmConfProfileEntry 4 }
```

```
adsl2ChAlarmConfProfileAturThresh15MinCorrected  OBJECT-TYPE
    SYNTAX      INTEGER
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "A threshold for the adsl2PMChCurr15MCorrectedBlocks
        counter, when adsl2PMChCurrUnit is ATUR {2}.
        The value 0 means that no threshold is specified for the
        associated counter."
    REFERENCE   " ITU-T G.997.1, paragraph 7.3.2"
    DEFVAL      { 0 }
    ::= { adsl2ChAlarmConfProfileEntry 5 }
```

```
adsl2ChAlarmConfProfileRowStatus  OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "Row Status"
    ::= { adsl2ChAlarmConfProfileEntry 6 }
```

```
-----
--          PM line current counters          --
-----
```

```
adsl2PMLineCurrTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF Adsl2PMLineCurrEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The table adsl2PMLineCurrTable contains current Performance
        Monitoring results of ADSL2 line."
    ::= { adsl2PMLine 1 }
```

```
adsl2PMLineCurrEntry  OBJECT-TYPE
    SYNTAX      Adsl2PMLineCurrEntry
    MAX-ACCESS  not-accessible
```


STATUS current

DESCRIPTION

"The table adsl2PMLineCurrTable contains current Performance
Monitoring results of ADSL2 line."

INDEX { ifIndex, adsl2PMLCurrUnit }
::= { adsl2PMLineCurrTable 1 }

Adsl2PMLineCurrEntry ::=

SEQUENCE {
 adsl2PMLCurrUnit Adsl2Unit,
 adsl2PMLCurrValidIntervals Unsigned32,
 adsl2PMLCurrInvalidIntervals Unsigned32,
 adsl2PMLCurr15MTimeElapsed Unsigned32,
 adsl2PMLCurr15MFecSeconds Unsigned32,
 adsl2PMLCurr15MEs Unsigned32,
 adsl2PMLCurr15MSes Unsigned32,
 adsl2PMLCurr15MLoss Unsigned32,
 adsl2PMLCurr15MUas Unsigned32,
 adsl2PMLCurr1DayValidIntervals Unsigned32,
 adsl2PMLCurr1DayInvalidIntervals Unsigned32,
 adsl2PMLCurr1DayTimeElapsed Unsigned32,
 adsl2PMLCurr1DayFecSeconds Unsigned32,
 adsl2PMLCurr1DayEs Unsigned32,
 adsl2PMLCurr1DaySes Unsigned32,
 adsl2PMLCurr1DayLoss Unsigned32,
 adsl2PMLCurr1DayUas Unsigned32
}

adsl2PMLCurrUnit OBJECT-TYPE

SYNTAX Adsl2Unit

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The termination unit ATUC{1} or ATUR{2}."

::= { adsl2PMLineCurrEntry 1 }

adsl2PMLCurrValidIntervals OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Valid intervals."

::= { adsl2PMLineCurrEntry 2 }

adsl2PMLCurrInvalidIntervals OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Invalid intervals."

::= { adsl2PMLineCurrEntry 3 }

adsl2PMLCurr15MTimeElapsed OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Total elapsed seconds in this interval"

::= { adsl2PMLineCurrEntry 4 }

adsl2PMLCurr15MFecSeconds OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds during this interval that there was at least one FEC correction event for one or more bearer channels in this line. This parameter is inhibited during UAS or SES."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineCurrEntry 5 }

adsl2PMLCurr15MEs OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds during this interval that there was:

ATU-C: CRC-8 >= 1 for one or more bearer channels OR
LOS >= 1 OR SEF >=1 OR LPR >= 1

ATU-R: FEBE >= 1 for one or more bearer channels OR
LOS-FE >=1 OR RDI >=1 OR LPR-FE >=1 .

This parameter is inhibited during UAS."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineCurrEntry 6 }

adsl2PMLCurr15MSes OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds during this interval that there was:

ATU-C: (CRC-8 summed over all bearer channels) >= 18 OR

LOS >= 1 OR SEF >= 1 OR LPR >= 1
ATU-R: (FEBE summed over all bearer channels) >= 18 OR
LOS-FE >= 1 OR RDI >= 1 OR LPR-FE >= 1 .

This parameter is inhibited during UAS."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineCurrEntry 7 }

adsl2PMLCurr15MLoss OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds during this interval that there was LOS (or
LOS-FE for ATU-R)."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineCurrEntry 8 }

adsl2PMLCurr15MUas OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds in Unavailability State during this
interval. Unavailability begins at the onset of 10
contiguous severely errored seconds, and ends at the
onset of 10 contiguous seconds with no severely errored
seconds."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineCurrEntry 9 }

adsl2PMLCurr1DayValidIntervals OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Valid intervals."

::= { adsl2PMLineCurrEntry 10 }

adsl2PMLCurr1DayInvalidIntervals OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Invalid intervals."

::= { adsl2PMLineCurrEntry 11 }

adsl2PMLCurr1DayTimeElapsed OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Total elapsed seconds in this interval."

::= { adsl2PMLineCurrEntry 12 }

adsl2PMLCurr1DayFecSeconds OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds during this interval that there was at least one FEC correction event for one or more bearer channels in this line. This parameter is inhibited during UAS or SES."

REFERENCE "ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineCurrEntry 13 }

adsl2PMLCurr1DayEs OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds during this interval that there was:

ATU-C: CRC-8 >= 1 for one or more bearer channels OR
LOS >= 1 OR SEF >= 1 OR LPR >= 1

ATU-R: FEBE >= 1 for one or more bearer channels OR
LOS-FE >= 1 OR RDI >= 1 OR LPR-FE >= 1.

This parameter is inhibited during UAS."

REFERENCE "ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineCurrEntry 14 }

adsl2PMLCurr1DaySes OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds during this interval that there was:

ATU-C: (CRC-8 summed over all bearer channels) >= 18 OR
LOS >= 1 OR SEF >= 1 OR LPR >= 1

ATU-R: (FEBE summed over all bearer channels) >= 18 OR
LOS-FE >= 1 OR RDI >= 1 OR LPR-FE >= 1

This parameter is inhibited during UAS."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
::= { adsl2PMLineCurrEntry 15 }

adsl2PMLCurr1DayLoss OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds during this interval that there was LOS (or
LOS-FE for ATU-R)."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
::= { adsl2PMLineCurrEntry 16 }

adsl2PMLCurr1DayUas OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds in Unavailability State during this interval.
Unavailability begins at the onset of 10 contiguous severely
errored seconds, and ends at the onset of 10 contiguous
seconds with no severely errored seconds."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
::= { adsl2PMLineCurrEntry 17 }

-- PM line init current counters --

adsl2PMLLineCurrInitTable OBJECT-TYPE

SYNTAX SEQUENCE OF Adsl2PMLLineCurrInitEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2PMLLineCurrInitTable contains current
initialization counters of ADSL2 line."

::= { adsl2PMLLine 2 }

adsl2PMLLineCurrInitEntry OBJECT-TYPE

SYNTAX Adsl2PMLLineCurrInitEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2PMLLineCurrInitTable contains current
initialization counters of ADSL2 line."


```
INDEX { ifIndex }
 ::= { adsl2PMLLineCurrInitTable 1 }
```

```
Adsl2PMLLineCurrInitEntry ::=
  SEQUENCE {
    adsl2PMLCurrInit15MTimeElapsed      Unsigned32,
    adsl2PMLCurrInit15MfullInits        Unsigned32,
    adsl2PMLCurrInit15MfailedFullInits   Unsigned32,
    adsl2PMLCurrInit15MShortInits        Unsigned32,
    adsl2PMLCurrInit15MFailedShortInits   Unsigned32,
    adsl2PMLCurrInit1DayTimeElapsed      Unsigned32,
    adsl2PMLCurrInit1DayFullInits        Unsigned32,
    adsl2PMLCurrInit1DayFailedFullInits   Unsigned32,
    adsl2PMLCurrInit1DayShortInits       Unsigned32,
    adsl2PMLCurrInit1DayFailedShortInits  Unsigned32
  }
```

```
adsl2PMLCurrInit15MTimeElapsed  OBJECT-TYPE
    SYNTAX      Unsigned32
    UNITS       "seconds"
    MAX-ACCESS   read-only
    STATUS      current
    DESCRIPTION
        "Total elapsed seconds in this interval."
    ::= { adsl2PMLLineCurrInitEntry 1 }
```

```
adsl2PMLCurrInit15MfullInits  OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS   read-only
    STATUS      current
    DESCRIPTION
        "Count of full initializations attempted on the line
         (successful and failed) during this interval."
    REFERENCE    " ITU-T G.997.1, paragraph 7.2.1"
    ::= { adsl2PMLLineCurrInitEntry 2 }
```

```
adsl2PMLCurrInit15MfailedFullInits  OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS   read-only
    STATUS      current
    DESCRIPTION
        "Count of failed full initializations on the line during this
         interval."
    REFERENCE    " ITU-T G.997.1, paragraph 7.2.1"
    ::= { adsl2PMLLineCurrInitEntry 3 }
```

```
adsl2PMLCurrInit15MShortInits  OBJECT-TYPE
    SYNTAX      Unsigned32
```


MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Count of short initializations attempted on the line
 (successful and failed) during this interval."
REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
::= { adsl2PMLCurrInitEntry 4 }

adsl2PMLCurrInit15MFailedShortInits OBJECT-TYPE
SYNTAX Unsigned32
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Count of failed short initializations on the line during this
 interval."
REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
::= { adsl2PMLCurrInitEntry 5 }

adsl2PMLCurrInit1DayTimeElapsed OBJECT-TYPE
SYNTAX Unsigned32
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Total elapsed seconds in this interval."
::= { adsl2PMLCurrInitEntry 6 }

adsl2PMLCurrInit1DayFullInits OBJECT-TYPE
SYNTAX Unsigned32
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Count of full initializations attempted on the line
 (successful and failed) during this interval."
REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
::= { adsl2PMLCurrInitEntry 7 }

adsl2PMLCurrInit1DayFailedFullInits OBJECT-TYPE
SYNTAX Unsigned32
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Count of failed full initializations on the line during this
 interval."
REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
::= { adsl2PMLCurrInitEntry 8 }

adsl2PMLCurrInit1DayShortInits OBJECT-TYPE


```

SYNTAX      Unsigned32
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Count of short initializations attempted on the line
    (successful and failed) during this interval."
REFERENCE   " ITU-T G.997.1, paragraph 7.2.1"
 ::= { adsl2PMLLineCurrInitEntry 9 }

```

adsl2PMLCurrInit1DayFailedShortInits OBJECT-TYPE

```

SYNTAX      Unsigned32
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Count of failed short initializations on the line during this
    interval."
REFERENCE   " ITU-T G.997.1, paragraph 7.2.1"
 ::= { adsl2PMLLineCurrInitEntry 10 }

```

```

-----
--          PM line history 15 Minutes          --
-----

```

adsl2PMLLineHist15MinTable OBJECT-TYPE

```

SYNTAX      SEQUENCE OF Adsl2PMLLineHist15MinEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "The table adsl2PMLLineHist15MinTable contains PM line history
    for 15min intervals of ADSL2 line."
 ::= { adsl2PMLLine 3 }

```

adsl2PMLLineHist15MinEntry OBJECT-TYPE

```

SYNTAX      Adsl2PMLLineHist15MinEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "The table adsl2PMLLineHist15MinTable contains PM line history
    for 15min intervals of ADSL2 line."
INDEX { ifIndex,
        adsl2PMLHist15MUnit,
        adsl2PMLHist15MInterval }
 ::= { adsl2PMLLineHist15MinTable 1 }

```

Adsl2PMLLineHist15MinEntry ::=

```

SEQUENCE {
    adsl2PMLHist15MUnit          Adsl2Unit,

```


adsl2PMLHist15MInterval	Unsigned32,
adsl2PMLHist15MMonitoredTime	Unsigned32,
adsl2PMLHist15MFecSeconds	Unsigned32,
adsl2PMLHist15MEs	Unsigned32,
adsl2PMLHist15MSes	Unsigned32,
adsl2PMLHist15MLoss	Unsigned32,
adsl2PMLHist15MUas	Unsigned32,
adsl2PMLHist15MValidInterval	TruthValue

}

adsl2PMLHist15MUnit OBJECT-TYPE

SYNTAX Adsl2Unit
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
 "The termination unit ATUC{1} or ATUR{2}."
 ::= { adsl2PMLLineHist15MinEntry 1 }

adsl2PMLHist15MInterval OBJECT-TYPE

SYNTAX Unsigned32
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
 "The interval number."
 ::= { adsl2PMLLineHist15MinEntry 2 }

adsl2PMLHist15MMonitoredTime OBJECT-TYPE

SYNTAX Unsigned32
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Total seconds monitored in this interval."
 ::= { adsl2PMLLineHist15MinEntry 3 }

adsl2PMLHist15MFecSeconds OBJECT-TYPE

SYNTAX Unsigned32
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Count of seconds during this interval that there was at least
 one FEC correction event for one or more bearer channels in
 this line. This parameter is inhibited during UAS or SES."
REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
 ::= { adsl2PMLLineHist15MinEntry 4 }

adsl2PMLHist15MEs OBJECT-TYPE

SYNTAX Unsigned32
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Count of seconds during this interval that there was:
 ATU-C: CRC-8 >= 1 for one or more bearer channels OR
 LOS >= 1 OR SEF >= 1 OR LPR >= 1
 ATU-R: FEBE >= 1 for one or more bearer channels OR
 LOS-FE >= 1 OR RDI >= 1 OR LPR-FE >= 1.
 This parameter is inhibited during UAS."
REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
 ::= { adsl2PMLineHist15MinEntry 5 }

adsl2PMLHist15MSes OBJECT-TYPE

SYNTAX Unsigned32
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Count of seconds during this interval that there was:
 ATU-C: (CRC-8 summed over all bearer channels) >= 18 OR
 LOS >= 1 OR SEF >= 1 OR LPR >= 1
 ATU-R: (FEBE summed over all bearer channels) >= 18 OR
 LOS-FE >= 1 OR RDI >= 1 OR LPR-FE >= 1.
 This parameter is inhibited during UAS."
REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
 ::= { adsl2PMLineHist15MinEntry 6 }

adsl2PMLHist15MLoss OBJECT-TYPE

SYNTAX Unsigned32
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Count of seconds during this interval that there was LOS (or
 LOS-FE for ATU-R)."
REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
 ::= { adsl2PMLineHist15MinEntry 7 }

adsl2PMLHist15MUas OBJECT-TYPE

SYNTAX Unsigned32
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Count of seconds in Unavailability State during this interval.
 Unavailability begins at the onset of 10 contiguous severely

errored seconds, and ends at the onset of 10 contiguous seconds with no severely errored seconds."
 REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
 ::= { adsl2PMLineHist15MinEntry 8 }

adsl2PMLHist15MValidInterval OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Does the interval contain valid information?"

::= { adsl2PMLineHist15MinEntry 9 }

 -- PM line history 1 Day --

adsl2PMLineHist1DayTable OBJECT-TYPE

SYNTAX SEQUENCE OF Adsl2PMLineHist1DayEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2PMLineHist1DayTable contains PM line history for 24 hours intervals of ADSL2 line."

::= { adsl2PMLine 4 }

adsl2PMLineHist1DayEntry OBJECT-TYPE

SYNTAX Adsl2PMLineHist1DayEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2PMLineHist1DayTable contains PM line history for 24 hours intervals of ADSL2 line."

INDEX { ifIndex,
 adsl2PMLHist1DUnit,
 adsl2PMLHist1DInterval }

::= { adsl2PMLineHist1DayTable 1 }

Adsl2PMLineHist1DayEntry ::=

SEQUENCE {

adsl2PMLHist1DUnit	Adsl2Unit,
adsl2PMLHist1DInterval	Unsigned32,
adsl2PMLHist1DMonitoredTime	Unsigned32,
adsl2PMLHist1DFecSeconds	Unsigned32,
adsl2PMLHist1DEs	Unsigned32,
adsl2PMLHist1DSes	Unsigned32,
adsl2PMLHist1DLoss	Unsigned32,


```
        adsl2PMLHist1DUas           Unsigned32,
        adsl2PMLHist1DValidInterval TruthValue
    }
```

adsl2PMLHist1DUnit OBJECT-TYPE

```
    SYNTAX      Adsl2Unit
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "The termination unit."
    ::= { adsl2PMLLineHist1DayEntry 1 }
```

adsl2PMLHist1DInterval OBJECT-TYPE

```
    SYNTAX      Unsigned32
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "The interval number."
    ::= { adsl2PMLLineHist1DayEntry 2 }
```

adsl2PMLHist1DMonitoredTime OBJECT-TYPE

```
    SYNTAX      Unsigned32
    UNITS        "seconds"
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "Total seconds monitored in this interval."
    ::= { adsl2PMLLineHist1DayEntry 3 }
```

adsl2PMLHist1DFecSeconds OBJECT-TYPE

```
    SYNTAX      Unsigned32
    UNITS        "seconds"
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "Count of seconds during this interval that there was at least
         one FEC correction event for one or more bearer channels in
         this line. This parameter is inhibited during UAS or SES."
    REFERENCE    " ITU-T G.997.1, paragraph 7.2.1"
    ::= { adsl2PMLLineHist1DayEntry 4 }
```

adsl2PMLHist1DEs OBJECT-TYPE

```
    SYNTAX      Unsigned32
    UNITS        "seconds"
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "Count of seconds during this interval that there was:
```


ATU-C: CRC-8 >= 1 for one or more bearer channels OR
LOS >= 1 OR SEF >= 1 OR LPR >= 1

ATU-R: FEBE >= 1 for one or more bearer channels OR
LOS-FE >= 1 OR RDI >= 1 OR LPR-FE >= 1.

This parameter is inhibited during UAS."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineHist1DayEntry 5 }

adsl2PMLHist1DSes OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds during this interval that there was:

ATU-C: (CRC-8 summed over all bearer channels) >= 18 OR
LOS >= 1 OR SEF >> 1 OR LPR >= 1

ATU-R: (FEBE summed over all bearer channels) >= 18 OR
LOS-FE >= 1 OR RDI >= 1 OR LPR-FE >= 1.

This parameter is inhibited during UAS."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineHist1DayEntry 6 }

adsl2PMLHist1DLoss OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds during this interval that there was LOS (or
LOS-FE for ATU-R)."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineHist1DayEntry 7 }

adsl2PMLHist1DUas OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of seconds in Unavailability State during this interval.
Unavailability begins at the onset of 10 contiguous severely
errored seconds, and ends at the onset of 10 contiguous
seconds with no severely errored seconds."

REFERENCE " ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineHist1DayEntry 8 }

adsl2PMLHist1DValidInterval OBJECT-TYPE


```

SYNTAX      TruthValue
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Does the interval contain valid information?"
 ::= { adsl2PMLineHist1DayEntry 9 }

--
--      PM line init history 15 Minutes
--
adsl2PMLineInitHist15MinTable      OBJECT-TYPE
    SYNTAX      SEQUENCE OF Adsl2PMLineInitHist15MinEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The table adsl2PMLineInitHist15MinTable contains PM line
         initialization history for 15 minutes intervals of ADSL2
         line."
    ::= { adsl2PMLine 5 }

adsl2PMLineInitHist15MinEntry      OBJECT-TYPE
    SYNTAX      Adsl2PMLineInitHist15MinEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The table adsl2PMLineInitHist15MinTable contains PM line
         initialization history for 15 minutes intervals of ADSL2
         line."
    INDEX { ifIndex,
            adsl2PMLHistInit15MInterval }
    ::= { adsl2PMLineInitHist15MinTable 1 }

Adsl2PMLineInitHist15MinEntry ::=
    SEQUENCE {
        adsl2PMLHistInit15MInterval      Unsigned32,
        adsl2PMLHistInit15MMonitoredTime Unsigned32,
        adsl2PMLHistInit15MFullInits     Unsigned32,
        adsl2PMLHistInit15MFailedFullInits Unsigned32,
        adsl2PMLHistInit15MShortInits    Unsigned32,
        adsl2PMLHistInit15MFailedShortInits Unsigned32,
        adsl2PMLHistInit15MValidInterval TruthValue
    }

adsl2PMLHistInit15MInterval      OBJECT-TYPE
    SYNTAX      Unsigned32

```


MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The interval number."

::= { adsl2PMLineInitHist15MinEntry 1 }

adsl2PMLHistInit15MMonitoredTime OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Total seconds monitored in this interval."

::= { adsl2PMLineInitHist15MinEntry 2 }

adsl2PMLHistInit15MFullInits OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of full initializations attempted on the line
(successful and failed) during this interval."

REFERENCE "ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineInitHist15MinEntry 3 }

adsl2PMLHistInit15MFailedFullInits OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of failed full initializations on the line during this
interval."

REFERENCE "ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineInitHist15MinEntry 4 }

adsl2PMLHistInit15MShortInits OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of short initializations attempted on the line
(successful and failed) during this interval."

REFERENCE "ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineInitHist15MinEntry 5 }

adsl2PMLHistInit15MFailedShortInits OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of failed short initializations on the line during this interval."

REFERENCE "ITU-T G.997.1, paragraph 7.2.1"

::= { adsl2PMLineInitHist15MinEntry 6 }

adsl2PMLHistInit15MValidInterval OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Does the interval contain valid information?."

::= { adsl2PMLineInitHist15MinEntry 7 }

```
-----
--          PM line init history 1 Day          --
-----
```

adsl2PMLineInitHist1DayTable OBJECT-TYPE

SYNTAX SEQUENCE OF Adsl2PMLineInitHist1DayEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2PMLineInitHist1DayTable contains PM line initialization history for 24 hours intervals of ADSL2 line."

::= { adsl2PMLine 6 }

adsl2PMLineInitHist1DayEntry OBJECT-TYPE

SYNTAX Adsl2PMLineInitHist1DayEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2PMLineInitHist1DayTable contains PM line initialization history for 24 hours intervals of ADSL2 line."

INDEX { ifIndex,
 adsl2PMLHistinit1DInterval }

::= { adsl2PMLineInitHist1DayTable 1 }

Adsl2PMLineInitHist1DayEntry ::=

SEQUENCE {

 adsl2PMLHistinit1DInterval Unsigned32,

 adsl2PMLHistinit1DMonitoredTime Unsigned32,

 adsl2PMLHistinit1DFullInits Unsigned32,

 adsl2PMLHistinit1DFailedFullInits Unsigned32,


```
    adsl2PMLHistinit1DShortInits      Unsigned32,
    adsl2PMLHistinit1DFailedShortInits Unsigned32,
    adsl2PMLHistinit1DValidInterval    TruthValue
}
```

adsl2PMLHistinit1DInterval OBJECT-TYPE

```
SYNTAX      Unsigned32
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "The interval number."
 ::= { adsl2PMLLineInitHist1DayEntry 1 }
```

adsl2PMLHistinit1DMonitoredTime OBJECT-TYPE

```
SYNTAX      Unsigned32
UNITS       "seconds"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Total seconds monitored in this interval."
 ::= { adsl2PMLLineInitHist1DayEntry 2 }
```

adsl2PMLHistinit1DFullInits OBJECT-TYPE

```
SYNTAX      Unsigned32
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Count of full initializations attempted on the line
    (successful and failed) during this interval."
REFERENCE   " ITU-T G.997.1, paragraph 7.2.1"
 ::= { adsl2PMLLineInitHist1DayEntry 3 }
```

adsl2PMLHistinit1DFailedFullInits OBJECT-TYPE

```
SYNTAX      Unsigned32
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Count of failed full initializations on the line during this
    interval."
REFERENCE   " ITU-T G.997.1, paragraph 7.2.1"
 ::= { adsl2PMLLineInitHist1DayEntry 4 }
```

adsl2PMLHistinit1DShortInits OBJECT-TYPE

```
SYNTAX      Unsigned32
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Count of short initializations attempted on the line"
```


(successful and failed) during this interval."
 REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
 ::= { adsl2PMLineInitHist1DayEntry 5 }

adsl2PMLHistinit1DFailedShortInits OBJECT-TYPE
 SYNTAX Unsigned32
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Count of failed short initializations on the line during this
 interval."
 REFERENCE " ITU-T G.997.1, paragraph 7.2.1"
 ::= { adsl2PMLineInitHist1DayEntry 6 }

adsl2PMLHistinit1DValidInterval OBJECT-TYPE
 SYNTAX TruthValue
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Does the interval contain valid information?"
 ::= { adsl2PMLineInitHist1DayEntry 7 }

 -- PM channel current counters --

adsl2PMChCurrTable OBJECT-TYPE
 SYNTAX SEQUENCE OF Adsl2PMChCurrEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "The table adsl2PMChCurrTable contains current Performance
 Monitoring results of ADSL2 channel."
 ::= { adsl2PMChannel 1 }

adsl2PMChCurrEntry OBJECT-TYPE
 SYNTAX Adsl2PMChCurrEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "The table adsl2PMChCurrTable contains current Performance
 Monitoring results of ADSL2 channel."
 INDEX { ifIndex, adsl2PMChCurrUnit }
 ::= { adsl2PMChCurrTable 1 }

Adsl2PMChCurrEntry ::=
 SEQUENCE {

adsl2PMChCurrUnit	Adsl2Unit,
adsl2PMChCurrValidIntervals	Unsigned32,
adsl2PMChCurrInvalidIntervals	Unsigned32,
adsl2PMChCurr15MtimeElapsed	Unsigned32,
adsl2PMChCurr15McodingViolations	Unsigned32,
adsl2PMChCurr15MCorrectedBlocks	Unsigned32,
adsl2PMChCurr1DayValidIntervals	Unsigned32,
adsl2PMChCurr1DayInvalidIntervals	Unsigned32,
adsl2PMChCurr1DayTimeElapsed	Unsigned32,
adsl2PMChCurr1DayCodingViolations	Unsigned32,
adsl2PMChCurr1DayCorrectedBlocks	Unsigned32

}

adsl2PMChCurrUnit OBJECT-TYPE

SYNTAX Adsl2Unit

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The termination unit."

::= { adsl2PMChCurrEntry 1 }

adsl2PMChCurrValidIntervals OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Valid intervals."

::= { adsl2PMChCurrEntry 2 }

adsl2PMChCurrInvalidIntervals OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Invalid intervals."

::= { adsl2PMChCurrEntry 3 }

adsl2PMChCurr15MtimeElapsed OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Total elapsed seconds in this interval."

::= { adsl2PMChCurrEntry 4 }

adsl2PMChCurr15McodingViolations OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of CRC-8 (FEFE for ATU-R) anomalies occurring in the channel during the interval. This parameter is inhibited during UAS or SES. If the CRC is applied over multiple channels, then each related CRC-8 (or FEFE) anomaly should increment each of the counters related to the individual channels."

REFERENCE "ITU-T G.997.1, paragraph 7.2.2"

::= { adsl2PMChCurrEntry 5 }

adsl2PMChCurr15MCorrectedBlocks OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of FEC (FFEC for ATU-R) anomalies (corrected code words) occurring in the channel during the interval. This parameter is inhibited during UAS or SES. If the FEC is applied over multiple channels, then each related FEC (or FFEC) anomaly should increment each of the counters related to the individual channels."

REFERENCE "ITU-T G.997.1, paragraph 7.2.2"

::= { adsl2PMChCurrEntry 6 }

adsl2PMChCurr1DayValidIntervals OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Valid intervals."

::= { adsl2PMChCurrEntry 7 }

adsl2PMChCurr1DayInvalidIntervals OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Invalid intervals."

::= { adsl2PMChCurrEntry 8 }

adsl2PMChCurr1DayTimeElapsed OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Total elapsed seconds in this interval."
 ::= { adsl2PMChCurrEntry 9 }

adsl2PMChCurr1DayCodingViolations OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of CRC?8 (FEBE for ATU-R) anomalies occurring in the channel during the interval. This parameter is inhibited during UAS or SES. If the CRC is applied over multiple channels, then each related CRC?8 (or FEBE) anomaly should increment each of the counters related to the individual channels."

REFERENCE " ITU-T G.997.1, paragraph 7.2.2"

::= { adsl2PMChCurrEntry 10 }

adsl2PMChCurr1DayCorrectedBlocks OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of FEC (FFEC for ATU-R) anomalies (corrected code words) occurring in the channel during the interval. This parameter is inhibited during UAS or SES. If the FEC is applied over multiple channels, then each related FEC (or FFEC) anomaly should increment each of the counters related to the individual channels."

REFERENCE " ITU-T G.997.1, paragraph 7.2.2"

::= { adsl2PMChCurrEntry 11 }

-- PM channel history 15 Minutes --

adsl2PMChHist15MinTable OBJECT-TYPE

SYNTAX SEQUENCE OF Adsl2PMChHist15MinEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2PMChCurrTable contains current Performance Monitoring results of ADSL2 channel."

::= { adsl2PMChannel 2 }

adsl2PMChHist15MinEntry OBJECT-TYPE

SYNTAX Adsl2PMChHist15MinEntry

MAX-ACCESS not-accessible


```
STATUS      current
DESCRIPTION
    "The table adsl2PMChCurrTable contains current Performance
    Monitoring results of ADSL2 channel."
INDEX { ifIndex,
        adsl2PMChHist15MUnit,
        adsl2PMChHist15MInterval }
 ::= { adsl2PMChHist15MinTable 1 }
```

```
Adsl2PMChHist15MinEntry ::=
SEQUENCE {
    adsl2PMChHist15MUnit           Adsl2Unit,
    adsl2PMChHist15MInterval       Unsigned32,
    adsl2PMChHist15MMonitoredTime  Unsigned32,
    adsl2PMChHist15MCodingViolations Unsigned32,
    adsl2PMChHist15MCorrectedBlocks Unsigned32,
    adsl2PMChHist15MValidInterval  TruthValue
}
```

```
adsl2PMChHist15MUnit OBJECT-TYPE
SYNTAX      Adsl2Unit
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "The termination unit."
 ::= { adsl2PMChHist15MinEntry 1 }
```

```
adsl2PMChHist15MInterval OBJECT-TYPE
SYNTAX      Unsigned32
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "The interval number."
 ::= { adsl2PMChHist15MinEntry 2 }
```

```
adsl2PMChHist15MMonitoredTime OBJECT-TYPE
SYNTAX      Unsigned32
UNITS       "seconds"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Total seconds monitored in this interval."
 ::= { adsl2PMChHist15MinEntry 3 }
```

```
adsl2PMChHist15MCodingViolations OBJECT-TYPE
SYNTAX      Unsigned32
MAX-ACCESS  read-only
STATUS      current
```


DESCRIPTION

"Count of CRC?8 (FEBE for ATU-R) anomalies occurring in the channel during the interval. This parameter is inhibited during UAS or SES. If the CRC is applied over multiple channels, then each related CRC?8 (or FEBE) anomaly should increment each of the counters related to the individual channels."

REFERENCE " ITU-T G.997.1, paragraph 7.2.2"

::= { adsl2PMChHist15MinEntry 4 }

adsl2PMChHist15MCorrectedBlocks OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of FEC (FFEC for ATU-R) anomalies (corrected code words) occurring in the channel during the interval. This parameter is inhibited during UAS or SES. If the FEC is applied over multiple channels, then each related FEC (or FFEC) anomaly should increment each of the counters related to the individual channels."

REFERENCE " ITU-T G.997.1, paragraph 7.2.2"

::= { adsl2PMChHist15MinEntry 5 }

adsl2PMChHist15MValidInterval OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Does the interval contain valid information?"

::= { adsl2PMChHist15MinEntry 6 }

-- PM channel history 1 Day --

adsl2PMChHist1DTable OBJECT-TYPE

SYNTAX SEQUENCE OF Adsl2PMChHist1DEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The table adsl2PMChHist1DayTable contains PM channel history for 1 day intervals of ADSL2."

::= { adsl2PMChannel 3 }

adsl2PMChHist1DEntry OBJECT-TYPE

SYNTAX Adsl2PMChHist1DEntry


```
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
    "The table adsl2PMChHist1DayTable contains PM channel history
    for 1 day intervals of ADSL2."
INDEX { ifIndex,
        adsl2PMChHist1DUnit,
        adsl2PMChHist1DInterval }
 ::= { adsl2PMChHist1DTable 1 }

Adsl2PMChHist1DEntry ::=
    SEQUENCE {
        adsl2PMChHist1DUnit                Adsl2Unit,
        adsl2PMChHist1DInterval            Unsigned32,
        adsl2PMChHist1DMonitoredTime       Unsigned32,
        adsl2PMChHist1DCodingViolations    Unsigned32,
        adsl2PMChHist1DCorrectedBlocks     Unsigned32,
        adsl2PMChHist1DValidInterval       TruthValue
    }

adsl2PMChHist1DUnit OBJECT-TYPE
    SYNTAX      Adsl2Unit
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The termination unit."
    ::= { adsl2PMChHist1DEntry 1 }

adsl2PMChHist1DInterval OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The interval number."
    ::= { adsl2PMChHist1DEntry 2 }

adsl2PMChHist1DMonitoredTime OBJECT-TYPE
    SYNTAX      Unsigned32
    UNITS       "seconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Total seconds monitored in this interval."
    ::= { adsl2PMChHist1DEntry 3 }

adsl2PMChHist1DCodingViolations OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-only
```


STATUS current

DESCRIPTION

"Count of CRC?8 (FEBE for ATU-R) anomalies occurring in the channel during the interval. This parameter is inhibited during UAS or SES. If the CRC is applied over multiple channels, then each related CRC?8 (or FEBE) anomaly should increment each of the counters related to the individual channels."

REFERENCE " ITU-T G.997.1, paragraph 7.2.2"

::= { adsl2PMChHist1DEntry 4 }

adsl2PMChHist1DCorrectedBlocks OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of FEC (FFEC for ATU-R) anomalies (corrected code words) occurring in the channel during the interval. This parameter is inhibited during UAS or SES. If the FEC is applied over multiple channels, then each related FEC (or FFEC) anomaly should increment each of the counters related to the individual channels."

REFERENCE " ITU-T G.997.1, paragraph 7.2.2"

::= { adsl2PMChHist1DEntry 5 }

adsl2PMChHist1DValidInterval OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Does the interval contain valid information ?"

::= { adsl2PMChHist1DEntry 6 }

-- Notifications Group --

adsl2LinePerfFECSThreshAtuc NOTIFICATION-TYPE

OBJECTS

{
adsl2PMLCurr15MFecSeconds,
adsl2LineAlarmConfProfileAtucThresh15MinFecSeconds
}

STATUS current

DESCRIPTION

"This notification indicates that the FEC seconds threshold has been reached/exceeded for the referred ATU-C."

::= { adsl2Notifications 1 }

adsl2LinePerfFECSThreshAtur NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMLCurr15MFecSeconds,
  adsl2LineAlarmConfProfileAturThresh15MinFecSeconds
}
```

STATUS current

DESCRIPTION

"This notification indicates that the FEC seconds threshold has been reached/exceeded for the referred ATU-R."

::= { adsl2Notifications 2 }

adsl2LinePerfESThreshAtuc NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMLCurr15MEs,
  adsl2LineAlarmConfProfileAtucThresh15MinEs
}
```

STATUS current

DESCRIPTION

"This notification indicates that the errored seconds threshold has been reached/exceeded for the referred ATU-C."

::= { adsl2Notifications 3 }

adsl2LinePerfESThreshAtur NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMLCurr15MEs,
  adsl2LineAlarmConfProfileAturThresh15MinEs
}
```

STATUS current

DESCRIPTION

"This notification indicates that the errored seconds threshold has been reached/exceeded for the referred ATU-R."

::= { adsl2Notifications 4 }

adsl2LinePerfSESThreshAtuc NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMLCurr15MSes,
  adsl2LineAlarmConfProfileAtucThresh15MinSes
}
```

STATUS current

DESCRIPTION

"This notification indicates that the severely errored seconds threshold has been reached/exceeded for the referred ATU-C."

::= { adsl2Notifications 5 }

adsl2LinePerfSESThreshAtur NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMLCurr15MSes,
  adsl2LineAlarmConfProfileAturThresh15MinSes
}
```

STATUS current

DESCRIPTION

"This notification indicates that the severely errored seconds threshold has been reached/exceeded for the referred ATU-R."

::= { adsl2Notifications 6 }

adsl2LinePerfLOSSThreshAtuc NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMLCurr15MLoss,
  adsl2LineAlarmConfProfileAtucThresh15MinLoss
}
```

STATUS current

DESCRIPTION

"This notification indicates that the LOS seconds threshold has been reached/exceeded for the referred ATU-C."

::= { adsl2Notifications 7 }

adsl2LinePerfLOSSThreshAtur NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMLCurr15MLoss,
  adsl2LineAlarmConfProfileAturThresh15MinLoss
}
```

STATUS current

DESCRIPTION

"This notification indicates that the LOS seconds threshold has been reached/exceeded for the referred ATU-R."

::= { adsl2Notifications 8 }

adsl2LinePerfUASThreshAtuc NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMLCurr15MUas,
  adsl2LineAlarmConfProfileAtucThresh15MinUas
}
```

STATUS current

DESCRIPTION

"This notification indicates that the unavailable seconds threshold has been reached/exceeded for the referred ATU-C."

::= { adsl2Notifications 9 }

adsl2LinePerfUASThreshAtur NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMLCurr15MUas,
  adsl2LineAlarmConfProfileAturThresh15MinUas
}
```

STATUS current

DESCRIPTION

"This notification indicates that the unavailable seconds threshold has been reached/exceeded for the referred ATU-R."
::= { adsl2Notifications 10 }

adsl2LinePerfCodingViolationsThreshAtuc NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMChCurr15McodingViolations,
  adsl2ChAlarmConfProfileAtucThresh15MinCodingViolations
}
```

STATUS current

DESCRIPTION

"This notification indicates that the coding violations threshold has been reached/exceeded for the referred ATU-C."
::= { adsl2Notifications 11 }

adsl2LinePerfCodingViolationsThreshAtur NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMChCurr15McodingViolations,
  adsl2ChAlarmConfProfileAturThresh15MinCodingViolations
}
```

STATUS current

DESCRIPTION

"This notification indicates that the coding violations threshold has been reached/exceeded for the referred ATU-R."
::= { adsl2Notifications 12 }

adsl2LinePerfCorrectedThreshAtuc NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMChCurr15MCorrectedBlocks,
  adsl2ChAlarmConfProfileAtucThresh15MinCorrected
}
```

STATUS current

DESCRIPTION

"This notification indicates that the corrected blocks (FEC events) threshold has been reached/exceeded for the referred ATU-C."
::= { adsl2Notifications 13 }

adsl2LinePerfCorrectedThreshAtur NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMChCurr15MCorrectedBlocks,
  adsl2ChAlarmConfProfileAturThresh15MinCorrected
}
```

STATUS current

DESCRIPTION

"This notification indicates that the corrected blocks (FEC events) threshold has been reached/exceeded for the referred ATU-R."

::= { adsl2Notifications 14 }

adsl2LinePerfFailedFullInitThresh NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMLCurrInit15MFailedFullInits,
  adsl2LineAlarmConfProfileThresh15MinFailedFullInt
}
```

STATUS current

DESCRIPTION

"This notification indicates that the failed full initializations threshold has been reached/exceeded for the referred ADSL/ADSL2 or ADSL2 line."

::= { adsl2Notifications 15 }

adsl2LinePerfFailedShortInitThresh NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2PMLCurrInit15MFailedShortInits,
  adsl2LineAlarmConfProfileThresh15MinFailedShrtInt
}
```

STATUS current

DESCRIPTION

"This notification indicates that the failed short initializations threshold has been reached/exceeded for the referred ADSL/ADSL2 or ADSL2 line."

::= { adsl2Notifications 16 }

adsl2LineStatusChangeAtuc NOTIFICATION-TYPE

OBJECTS

```
{
  adsl2LineStatusAtuc
}
```

STATUS current

DESCRIPTION

"This notification indicates that a status change is detected for the referred ATU-C."


```
::= { adsl2Notifications 17 }
```

```
adsl2LineStatusChangeAtur NOTIFICATION-TYPE
```

```
OBJECTS
```

```
{  
  adsl2LineStatusAtur  
}
```

```
STATUS      current
```

```
DESCRIPTION
```

```
  "This notification indicates that a status change is  
  detected for the referred ATU-R."
```

```
::= { adsl2Notifications 18 }
```

```
-- conformance information
```

```
adsl2Groups OBJECT IDENTIFIER ::= { adsl2Conformance 1 }
```

```
adsl2Compliances OBJECT IDENTIFIER ::= { adsl2Conformance 2 }
```

```
adsl2LineMibCompliance MODULE-COMPLIANCE
```

```
STATUS      current
```

```
DESCRIPTION
```

```
  "The compliance statement for SNMP entities which  
  manage ADSL2 interfaces."
```

```
MODULE -- this module
```

```
MANDATORY-GROUPS
```

```
{  
  adsl2LineGroup,  
  adsl2ChannelStatusGroup,  
  adsl2SCStatusGroup,  
  adsl2LineInventoryGroup,  
  adsl2LineConfTemplateGroup,  
  adsl2LineConfProfGroup,  
  adsl2LineConfProfModeSpecGroup,  
  adsl2ChConfProfileGroup,  
  adsl2LineAlarmConfTemplateGroup,  
  adsl2PMLineCurrGroup,  
  adsl2PMLineCurrInitGroup,  
  adsl2PMLineHist15MinGroup,  
  adsl2PMLineHist1DayGroup,  
  adsl2PMLineInitHist15MinGroup,  
  adsl2PMLineInitHist1DayGroup,  
  adsl2PMChCurrGroup,  
  adsl2PMChHist15MinGroup,  
  adsl2PMChHist1DGroup  
}
```

```
GROUP      adsl2ChannelStatusAtmGroup
```


DESCRIPTION

"The group of status objects required when the data path is ATM."

GROUP adsl2ChannelStatusPtmGroup

DESCRIPTION

"The group of status objects required when the data path is PTM."

GROUP adsl2LineConfProfRaGroup

DESCRIPTION

"The group of objects required for controlling the rate adaptive behavior of the line."

GROUP adsl2LineConfProfMsgMinGroup

DESCRIPTION

"The group of objects required for controlling the rate reserved for Overhead traffic."

GROUP adsl2LineAlarmConfProfileGroup

DESCRIPTION

"The group of objects that define the alarm thresholds on line level PM counters."

GROUP adsl2ChAlarmConfProfileGroup

DESCRIPTION

"The group of objects that define the alarm thresholds on channel level PM counters."

GROUP adsl2ChConfProfileAtmGroup

DESCRIPTION

"The group of configuration objects required when the data path is ATM."

GROUP adsl2ChConfProfileMinResGroup

DESCRIPTION

"The group of configuration objects required for the reserved data rate."

GROUP adsl2PMLineCurrInitShortGroup

DESCRIPTION

"The group of PM counters for the current intervals short initializations."

GROUP adsl2PMLineInitHist15MinShortGroup

DESCRIPTION

"The group of PM counters for the previous 15 minutes intervals short initializations."

GROUP adsl2PMLineInitHist1DayShortGroup

DESCRIPTION

"The group of PM counters for the previous 24 hours
intervals short initializations."

GROUP adsl2ScalarSCGroup

DESCRIPTION

"The group of objects that report the available memory
resources for DELT processes."

GROUP adsl2ThreshNotificationGroup

DESCRIPTION

"The group of thresholds crossing notifications."

GROUP adsl2StatusChangeNotificationGroup

DESCRIPTION

"The group of status change notifications."

::= { adsl2Compliances 1 }

-- units of conformance

adsl2LineGroup OBJECT-GROUP

OBJECTS

```
{
  adsl2LineCnfgTemplate,
  adsl2LineAlarmCnfgTemplate,
  adsl2LineCmndConfPmsf,
  adsl2LineCmndConfLdsf,
  adsl2LineCmndConfLdsfFailReason,
  adsl2LineCmndAutomodeColdStart,
  adsl2LineStatusAtuTransSys,
  adsl2LineStatusPwrMngState,
  adsl2LineStatusInitResult,
  adsl2LineStatusLastStateDs,
  adsl2LineStatusLastStateUs,
  adsl2LineStatusAtur,
  adsl2LineStatusAtuc,
  adsl2LineStatusLnAttenDs,
  adsl2LineStatusLnAttenUs,
  adsl2LineStatusSigAttenDs,
  adsl2LineStatusSigAttenUs,
  adsl2LineStatusSnrMarginDs,
  adsl2LineStatusSnrMarginUs,
  adsl2LineStatusAttainableRateDs,
  adsl2LineStatusAttainableRateUs,
  adsl2LineStatusActPsdDs,
  adsl2LineStatusActPsdUs,
```



```
        adsl2LineStatusActAtpdDs,
        adsl2LineStatusActAtpdUs
    }
    STATUS      current
    DESCRIPTION
        "The group of configuration, status and commands objects
        on the line level."
    ::= { adsl2Groups 1 }

adsl2ChannelStatusGroup OBJECT-GROUP
    OBJECTS
        {
            adsl2ChStatusActDataRate,
            adsl2ChStatusPrevDataRate,
            adsl2ChStatusActDelay
        }
    STATUS      current
    DESCRIPTION
        "The group of status objects on the channel level."
    ::= { adsl2Groups 2 }

adsl2ChannelStatusAtmGroup OBJECT-GROUP
    OBJECTS
        {
            adsl2ChStatusAtmStatus
        }
    STATUS      current
    DESCRIPTION
        "The group of status objects on the data path level
        when it is ATM."
    ::= { adsl2Groups 3 }

adsl2ChannelStatusPtmGroup OBJECT-GROUP
    OBJECTS
        {
            adsl2ChStatusPtmStatus
        }
    STATUS      current
    DESCRIPTION
        "The group of status objects on the data path level
        when it is PTM."
    ::= { adsl2Groups 4 }

adsl2SCStatusGroup OBJECT-GROUP
    OBJECTS
        {
            adsl2SCStatusMtime,
            adsl2SCStatusSnr,
```



```
adsl2SCStatusBitsAlloc,  
adsl2SCStatusGainAlloc,  
adsl2SCStatusLinScale,  
adsl2SCStatusLinReal,  
adsl2SCStatusLinImg,  
adsl2SCStatusLogMt,  
adsl2SCStatusLog,  
adsl2SCStatusQlnMt,  
adsl2SCStatusQln,  
adsl2SCStatusLnAtten,  
adsl2SCStatusSigAtten,  
adsl2SCStatusSnrMargin,  
adsl2SCStatusAttainableRate,  
adsl2SCStatusActAtp,  
adsl2SCStatusRowStatus  
}
```

STATUS current

DESCRIPTION

"The group of status objects on the sub-carrier level.
Those are updated as a result of a DELT process."

::= { adsl2Groups 5 }

adsl2LineInventoryGroup OBJECT-GROUP

OBJECTS

```
{  
adsl2LInvG994VendorId,  
adsl2LInvSystemVendorId,  
adsl2LInvVersionNumber,  
adsl2LInvSerialNumber,  
adsl2LInvSelfTestResult,  
adsl2LInvTransmissionCapabilities  
}
```

STATUS current

DESCRIPTION

"The group of inventory objects per xTU."

::= { adsl2Groups 6 }

adsl2LineConfTemplateGroup OBJECT-GROUP

OBJECTS

```
{  
adsl2LConfTempLineProfile,  
adsl2LConfTempChan1ConfProfile,  
adsl2LConfTempChan1RaRatioDs,  
adsl2LConfTempChan1RaRatioUs,  
adsl2LConfTempChan2ConfProfile,  
adsl2LConfTempChan2RaRatioDs,  
adsl2LConfTempChan2RaRatioUs,  
adsl2LConfTempChan3ConfProfile,  
}
```



```
    adsl2LConfTempChan3RaRatioDs,
    adsl2LConfTempChan3RaRatioUs,
    adsl2LConfTempChan4ConfProfile,
    adsl2LConfTempChan4RaRatioDs,
    adsl2LConfTempChan4RaRatioUs,
    adsl2LConfTempRowStatus
  }
STATUS      current
DESCRIPTION
    "The group of objects in a line configuration template."
 ::= { adsl2Groups 7 }
```

adsl2LineConfProfGroup OBJECT-GROUP

OBJECTS

```
  {
    adsl2LConfProfScMaskDs,
    adsl2LConfProfScMaskUs,
    adsl2LConfProfRfiBandsDs,
    adsl2LConfProfRaModeDs,
    adsl2LConfProfRaModeUs,
    adsl2LConfProfTargetSnrmDs,
    adsl2LConfProfTargetSnrmUs,
    adsl2LConfProfMaxSnrmDs,
    adsl2LConfProfMaxSnrmUs,
    adsl2LConfProfMinSnrmDs,
    adsl2LConfProfMinSnrmUs,
    adsl2LConfProfAtuTransSysEna,
    adsl2LConfProfPmMode,
    adsl2LConfProfL0Time,
    adsl2LConfProfL2Time,
    adsl2LConfProfL2Atpr,
    adsl2LConfProfL2Atprt,
    adsl2LConfProfRowStatus
  }
STATUS      current
DESCRIPTION
    "The group of objects in a line configuration profile."
 ::= { adsl2Groups 8 }
```

adsl2LineConfProfRaGroup OBJECT-GROUP

OBJECTS

```
  {
    adsl2LConfProfRaUsNrmDs,
    adsl2LConfProfRaUsNrmUs,
    adsl2LConfProfRaUsTimeDs,
    adsl2LConfProfRaUsTimeUs,
    adsl2LConfProfRaDsNrmsDs,
    adsl2LConfProfRaDsNrmsUs,
  }
```



```
        adsl2LConfProfRaDsTimeDs,
        adsl2LConfProfRaDsTimeUs
    }
    STATUS      current
    DESCRIPTION
        "The group of objects required for controlling the rate
        adaptive behavior of the line."
    ::= { adsl2Groups 9 }

adsl2LineConfProfMsgMinGroup OBJECT-GROUP
    OBJECTS
        {
            adsl2LConfProfMsgMinUs,
            adsl2LConfProfMsgMinDs
        }
    STATUS      current
    DESCRIPTION
        "The group of objects required for controlling the rate
        reserved for Overhead traffic."
    ::= { adsl2Groups 10 }

adsl2LineConfProfModeSpecGroup OBJECT-GROUP
    OBJECTS
        {
            adsl2LConfProfMaxNomPsdDs,
            adsl2LConfProfMaxNomPsdUs,
            adsl2LConfProfMaxNomAtpDs,
            adsl2LConfProfMaxNomAtpUs,
            adsl2LConfProfMaxAggRxPwrUs,
            adsl2LConfProfPsdMaskDs,
            adsl2LConfProfPsdMaskUs,
            adsl2LConfProfPsdMaskSelectUs,
            adsl2LConfProfModeSpecRowStatus
        }
    STATUS      current
    DESCRIPTION
        "The group of objects in a line configuration profile
        that have an instance for each operation mode allowed."
    ::= { adsl2Groups 11 }

adsl2ChConfProfileGroup OBJECT-GROUP
    OBJECTS
        {
            adsl2ChConfProfMinDataRateDs,
            adsl2ChConfProfMinDataRateUs,
            adsl2ChConfProfMaxDataRateDs,
            adsl2ChConfProfMaxDataRateUs,
            adsl2ChConfProfMinDataRateLowPwrDs,
```



```
    adsl2ChConfProfMinDataRateLowPwrUs,
    adsl2ChConfProfMaxDelayDs,
    adsl2ChConfProfMaxDelayUs,
    adsl2ChConfProfMinProtectionDs,
    adsl2ChConfProfMinProtectionUs,
    adsl2ChConfProfMaxBerDs,
    adsl2ChConfProfMaxBerUs,
    adsl2ChConfProfUsDataRateDs,
    adsl2ChConfProfDsDataRateDs,
    adsl2ChConfProfUsDataRateUs,
    adsl2ChConfProfDsDataRateUs,
    adsl2ChConfProfRowStatus
  }
STATUS      current
DESCRIPTION
  "The group of objects in a channel configuration profile."
 ::= { adsl2Groups 12 }

adsl2ChConfProfileAtmGroup OBJECT-GROUP
OBJECTS
  {
    adsl2ChConfProfImaEnabled,
    adsl2ChStatusAtmStatus
  }
STATUS      current
DESCRIPTION
  "The group of configuration objects required when the data
  path is ATM."
 ::= { adsl2Groups 13 }

adsl2ChConfProfileMinResGroup OBJECT-GROUP
OBJECTS
  {
    adsl2ChConfProfMinResDataRateDs,
    adsl2ChConfProfMinResDataRateUs
  }
STATUS      current
DESCRIPTION
  "The group of configuration objects required for the
  reserved data rate."
 ::= { adsl2Groups 14 }

adsl2LineAlarmConfTemplateGroup OBJECT-GROUP
OBJECTS
  {
    adsl2LAlarmConfTempLineProfile,
    adsl2LAlarmConfTempChan1ConfProfile,
    adsl2LAlarmConfTempChan2ConfProfile,
```



```
        adsl2LAlarmConfTempChan3ConfProfile,
        adsl2LAlarmConfTempChan4ConfProfile,
        adsl2LAlarmConfTempRowStatus
    }
    STATUS      current
    DESCRIPTION
        ""
    ::= { adsl2Groups 15 }
```

adsl2LineAlarmConfProfileGroup OBJECT-GROUP

```
    OBJECTS
    {
        adsl2LineAlarmConfProfileAtucThresh15MinFecSeconds,
        adsl2LineAlarmConfProfileAtucThresh15MinEs,
        adsl2LineAlarmConfProfileAtucThresh15MinSes,
        adsl2LineAlarmConfProfileAtucThresh15MinLoss,
        adsl2LineAlarmConfProfileAtucThresh15MinUas,
        adsl2LineAlarmConfProfileAturThresh15MinFecSeconds,
        adsl2LineAlarmConfProfileAturThresh15MinEs,
        adsl2LineAlarmConfProfileAturThresh15MinSes,
        adsl2LineAlarmConfProfileAturThresh15MinLoss,
        adsl2LineAlarmConfProfileAturThresh15MinUas,
        adsl2LineAlarmConfProfileThresh15MinFailedFullInt,
        adsl2LineAlarmConfProfileThresh15MinFailedShrtInt,
        adsl2LineAlarmConfProfileRowStatus
    }
    STATUS      current
    DESCRIPTION
        "The group of objects in a line alarm profile."
    ::= { adsl2Groups 16 }
```

adsl2ChAlarmConfProfileGroup OBJECT-GROUP

```
    OBJECTS
    {
        adsl2ChAlarmConfProfileAtucThresh15MinCodingViolations,
        adsl2ChAlarmConfProfileAtucThresh15MinCorrected,
        adsl2ChAlarmConfProfileAturThresh15MinCodingViolations,
        adsl2ChAlarmConfProfileAturThresh15MinCorrected,
        adsl2ChAlarmConfProfileRowStatus
    }
    STATUS      current
    DESCRIPTION
        "The group of objects in a channel alarm profile."
    ::= { adsl2Groups 17 }
```

adsl2PMLineCurrGroup OBJECT-GROUP

```
    OBJECTS
    {
```



```
    adsl2PMLCurrValidIntervals,
    adsl2PMLCurrInvalidIntervals,
    adsl2PMLCurr15MTimeElapsed,
    adsl2PMLCurr15MFecSeconds,
    adsl2PMLCurr15MEs,
    adsl2PMLCurr15MSes,
    adsl2PMLCurr15MLoss,
    adsl2PMLCurr15MUas,
    adsl2PMLCurr1DayValidIntervals,
    adsl2PMLCurr1DayInvalidIntervals,
    adsl2PMLCurr1DayTimeElapsed,
    adsl2PMLCurr1DayFecSeconds,
    adsl2PMLCurr1DayEs,
    adsl2PMLCurr1DaySes,
    adsl2PMLCurr1DayLoss,
    adsl2PMLCurr1DayUas
  }
STATUS      current
DESCRIPTION
  "The group of objects that report the line level
   counters for current PM intervals."
 ::= { adsl2Groups 18 }

adsl2PMLLineCurrInitGroup OBJECT-GROUP
OBJECTS
  {
    adsl2PMLCurrInit15MTimeElapsed,
    adsl2PMLCurrInit15MfullInits,
    adsl2PMLCurrInit15MfailedFullInits,
    adsl2PMLCurrInit1DayTimeElapsed,
    adsl2PMLCurrInit1DayFullInits,
    adsl2PMLCurrInit1DayFailedFullInits
  }
STATUS      current
DESCRIPTION
  "The group of objects that report the full
   initializations counters for current PM intervals."
 ::= { adsl2Groups 19 }

adsl2PMLLineCurrInitShortGroup OBJECT-GROUP
OBJECTS
  {
    adsl2PMLCurrInit15MShortInits,
    adsl2PMLCurrInit15MFailedShortInits,
    adsl2PMLCurrInit1DayShortInits,
    adsl2PMLCurrInit1DayFailedShortInits
  }
STATUS      current
```


DESCRIPTION

"The group of objects that report the short
initializations counters for current PM intervals."
::= { adsl2Groups 20 }

adsl2PMLHist15MinGroup OBJECT-GROUP

OBJECTS

```
{  
  adsl2PMLHist15MMonitoredTime,  
  adsl2PMLHist15MFecSeconds,  
  adsl2PMLHist15MEs,  
  adsl2PMLHist15MSes,  
  adsl2PMLHist15MLoss,  
  adsl2PMLHist15MUas,  
  adsl2PMLHist15MValidInterval  
}
```

STATUS current

DESCRIPTION

"The group of line level PM counters for the previous
15 minutes intervals."
::= { adsl2Groups 21 }

adsl2PMLHist1DayGroup OBJECT-GROUP

OBJECTS

```
{  
  adsl2PMLHist1DMonitoredTime,  
  adsl2PMLHist1DFecSeconds,  
  adsl2PMLHist1DEs,  
  adsl2PMLHist1DSes,  
  adsl2PMLHist1DLoss,  
  adsl2PMLHist1DUas,  
  adsl2PMLHist1DValidInterval  
}
```

STATUS current

DESCRIPTION

"The group of line level PM counters for the previous
24 hours intervals."
::= { adsl2Groups 22 }

adsl2PMLHistInit15MinGroup OBJECT-GROUP

OBJECTS

```
{  
  adsl2PMLHistInit15MMonitoredTime,  
  adsl2PMLHistInit15MFullInits,  
  adsl2PMLHistInit15MFailedFullInits,  
  adsl2PMLHistInit15MValidInterval  
}
```

STATUS current

DESCRIPTION

"The group of PM counters for the previous 15 minutes intervals full initializations."

::= { adsl2Groups 23 }

adsl2PMLineInitHist15MinShortGroup OBJECT-GROUP

OBJECTS

```
{
    adsl2PMLHistInit15MShortInits,
    adsl2PMLHistInit15MFailedShortInits
}
```

STATUS current

DESCRIPTION

"The group of PM counters for the previous 15 minutes intervals short initializations."

::= { adsl2Groups 24 }

adsl2PMLineInitHist1DayGroup OBJECT-GROUP

OBJECTS

```
{
    adsl2PMLHistinit1DMonitoredTime,
    adsl2PMLHistinit1DFullInits,
    adsl2PMLHistinit1DFailedFullInits,
    adsl2PMLHistinit1DValidInterval
}
```

STATUS current

DESCRIPTION

"The group of PM counters for the previous 24 hours intervals full initializations."

::= { adsl2Groups 25 }

adsl2PMLineInitHist1DayShortGroup OBJECT-GROUP

OBJECTS

```
{
    adsl2PMLHistinit1DShortInits,
    adsl2PMLHistinit1DFailedShortInits
}
```

STATUS current

DESCRIPTION

"The group of PM counters for the previous 24 hours intervals short initializations."

::= { adsl2Groups 26 }

adsl2PMChCurrGroup OBJECT-GROUP

OBJECTS

```
{
    adsl2PMChCurrValidIntervals,
    adsl2PMChCurrInvalidIntervals,
}
```



```
    adsl2PMChCurr15MtimeElapsed,
    adsl2PMChCurr15McodingViolations,
    adsl2PMChCurr15MCorrectedBlocks,
    adsl2PMChCurr1DayValidIntervals,
    adsl2PMChCurr1DayInvalidIntervals,
    adsl2PMChCurr1DayTimeElapsed,
    adsl2PMChCurr1DayCodingViolations,
    adsl2PMChCurr1DayCorrectedBlocks
  }
STATUS      current
DESCRIPTION
  "The group of objects that report the channel level
   counters for current PM intervals."
 ::= { adsl2Groups 27 }

adsl2PMChHist15MinGroup OBJECT-GROUP
OBJECTS
  {
    adsl2PMChHist15MMonitoredTime,
    adsl2PMChHist15MCodingViolations,
    adsl2PMChHist15MCorrectedBlocks,
    adsl2PMChHist15MValidInterval
  }
STATUS      current
DESCRIPTION
  "The group of objects that report the channel level
   counters for previous 15 minutes PM intervals."
 ::= { adsl2Groups 28 }

adsl2PMChHist1DGroup OBJECT-GROUP
OBJECTS
  {
    adsl2PMChHist1DMonitoredTime,
    adsl2PMChHist1DCodingViolations,
    adsl2PMChHist1DCorrectedBlocks,
    adsl2PMChHist1DValidInterval
  }
STATUS      current
DESCRIPTION
  "The group of objects that report the channel level
   counters for previous 24 hours PM intervals."
 ::= { adsl2Groups 29 }

adsl2ScalarSCGroup OBJECT-GROUP
OBJECTS
  {
    adsl2ScalarSCMaxInterfaces,
    adsl2ScalarSCAvailInterfaces
```



```
    }
    STATUS      current
    DESCRIPTION
        "The group of objects that report the available memory
        resources for DELT processes."
    ::= { adsl2Groups 30 }

adsl2ThreshNotificationGroup NOTIFICATION-GROUP
    NOTIFICATIONS
    {
        adsl2LinePerfFECSThreshAtuc,
        adsl2LinePerfFECSThreshAtur,
        adsl2LinePerfESThreshAtuc,
        adsl2LinePerfESThreshAtur,
        adsl2LinePerfSESThreshAtuc,
        adsl2LinePerfSESThreshAtur,
        adsl2LinePerfLOSSThreshAtuc,
        adsl2LinePerfLOSSThreshAtur,
        adsl2LinePerfUASThreshAtuc,
        adsl2LinePerfUASThreshAtur,
        adsl2LinePerfCodingViolationsThreshAtuc,
        adsl2LinePerfCodingViolationsThreshAtur,
        adsl2LinePerfCorrectedThreshAtuc,
        adsl2LinePerfCorrectedThreshAtur,
        adsl2LinePerfFailedFullInitThresh,
        adsl2LinePerfFailedShortInitThresh
    }
    STATUS      current
    DESCRIPTION
        "This group supports notifications of significant conditions
        associated with ADSL2 lines."
    ::= { adsl2Groups 31 }

adsl2StatusChangeNotificationGroup NOTIFICATION-GROUP
    NOTIFICATIONS
    {
        adsl2LineStatusChangeAtuc,
        adsl2LineStatusChangeAtur
    }
    STATUS      current
    DESCRIPTION
        "This group supports notifications of thresholds crossing
        associated with ADSL2 lines."
    ::= { adsl2Groups 32 }
```

END

4. Implementation Analysis

A management application intended to manage ADSL links (e.g. G.992.1) with this MIB module MUST be modified to adapt itself to certain differences between [RFC 2662](#) [[RFC2662](#)] and this MIB module, including the following aspects:

- o Though the configuration templates/profiles allow referring to 1-4 bearer channels, ADSL links are limited to 2 channels at most
- o Though the channel configuration profile allows higher data rates, ADSL links are limited to downstream/upstream data rate as assumed in [RFC 2662](#) [[RFC2662](#)]
- o The Impulse Noise Protection (INP) configuration parameters are given by minimum protection and maximum delay parameters.
- o The line configuration profile includes a sub-table that addresses mode specific parameters. For ADSL links the management application SHOULD create a row in that table for the 'adsl' mode.
- o The line configuration profile includes parameters that are irrelevant for ADSL links. Similarly many status parameters in the MIB are irrelevant for certain ADSL modes. It is therefore advised to consult with ITU G.997.1 standard [[G.997.1](#)] regarding to the scope and relevance of each parameter in this MIB.

5. Security Considerations

There are a number of management objects defined in this MIB module with a MAX-ACCESS clause of read-write and/or read-create. Such objects may be considered sensitive or vulnerable in some network environments. The support for SET operations in a non-secure environment without proper protection can have a negative effect on network operations. These are the tables and objects and their sensitivity/vulnerability:

- o adsl2LineTable

The table consists of the following objects that support SET operations:

- * adsl2LineCnfgTemplate
- * adsl2LineAlarmCnfgTemplate
- * adsl2LineCmndConfPmsf
- * adsl2LineCmndConfLdsf
- * adsl2LineCmndAutomodeColdStart

Unauthorized changes to adsl2LineCnfgTemplate could have a major adverse operational effect on many lines simultaneously.

Unauthorized changes to `adsl2LineAlarmCnfgTemplate` could have a contrary effect on notifications.

Unauthorized changes to `adsl2LineCmndConfPmsf` could have an adverse affect on the power consumption of a line and may disrupt an operational service.

Unauthorized changes to `adsl2LineCmndConfLdsf` could cause an unscheduled line test to be carried out on the line.

Unauthorized changes to `adsl2LineCmndAutomodeColdStart` could cause an unscheduled cold reset to the line.

o `adsl2SCStatusTable`

This table contains one object, `adsl2SCStatusRowStatus`, that supports SET operations. Unauthorized changes could result in line test results being deleted prematurely.

o `adsl2LineConfTemplateTable`

The table consists of the following objects that support SET operations:

- * `adsl2LConfTempLineProfile`
- * `adsl2LConfTempChan1ConfProfile`
- * `adsl2LConfTempChan1RaRatioDs`
- * `adsl2LConfTempChan1RaRatioUs`
- * `adsl2LConfTempChan2ConfProfile`
- * `adsl2LConfTempChan2RaRatioDs`
- * `adsl2LConfTempChan2RaRatioUs`
- * `adsl2LConfTempChan3ConfProfile`
- * `adsl2LConfTempChan3RaRatioDs`
- * `adsl2LConfTempChan3RaRatioUs`
- * `adsl2LConfTempChan4ConfProfile`
- * `adsl2LConfTempChan4RaRatioDs`
- * `adsl2LConfTempChan4RaRatioUs`
- * `adsl2LConfTempRowStatus`

Unauthorized changes to `adsl2LConfTempLineProfile`, `adsl2LConfTempChan1ConfProfile`, `adsl2LConfTempChan2ConfProfile`, `adsl2LConfTempChan3ConfProfile`, or `adsl2LConfTempChan4ConfProfile` could have an adverse operational effect on several lines; could change several lines over to running in unwanted levels of operation; or could result in several services undergoing changes in the number of channels that carry the service.

Unauthorized changes to `adsl2LConfTempChan1RaRatioDs`,

adsl2LConfTempChan2RaRatioDs, adsl2LConfTempChan3RaRatioDs, or adsl2LConfTempChan4RaRatioDs, would alter the relative rate allocations among all channels belonging to a line. This could have an adverse operational effect on several lines.

Unauthorized changes to adsl2LConfTempRowStatus could result in templates being created or brought into service prematurely; or could result in templates being inadvertently deleted or taken out of service.

o adsl2LineConfProfTable

The table consists of the following objects that support SET operations:

- * adsl2LConfProfScMaskDs
- * adsl2LConfProfScMaskUs
- * adsl2LConfProfRfiBandsDs
- * adsl2LConfProfRaModeDs
- * adsl2LConfProfRaModeUs
- * adsl2LConfProfRaUsNrmDs
- * adsl2LConfProfRaUsNrmUs
- * adsl2LConfProfRaUsTimeDs
- * adsl2LConfProfRaUsTimeUs
- * adsl2LConfProfRaDsNrmsDs
- * adsl2LConfProfRaDsNrmsUs
- * adsl2LConfProfRaDsTimeDs
- * adsl2LConfProfRaDsTimeUs
- * adsl2LConfProfTargetSnrmDs
- * adsl2LConfProfTargetSnrmUs
- * adsl2LConfProfMaxSnrmDs
- * adsl2LConfProfMaxSnrmUs
- * adsl2LConfProfMinSnrmDs
- * adsl2LConfProfMinSnrmUs
- * adsl2LConfProfMsgMinUs
- * adsl2LConfProfMsgMinDs
- * adsl2LConfProfAtuTransSysEna
- * adsl2LConfProfPmMode
- * adsl2LConfProfL0Time
- * adsl2LConfProfL2Time
- * adsl2LConfProfL2Atpr
- * adsl2LConfProfL2Atprt
- * adsl2LConfProfRowStatus

Unauthorized changes resulting in the setting of any of the above objects to an incorrect value could have an adverse operational effect on several lines.

Also, unauthorized changes to `adsl2LConfProfRowStatus` could result in unwanted line profiles being created or brought into service prematurely; or could result in line profiles being inadvertently deleted or taken out of service.

o `adsl2LineConfProfModeSpecTable`

The table consists of the following objects that support SET operations:

- * `adsl2LConfProfMaxNomPsdDs`
- * `adsl2LConfProfMaxNomPsdUs`
- * `adsl2LConfProfMaxNomAtpDs`
- * `adsl2LConfProfMaxNomAtpUs`
- * `adsl2LConfProfMaxAggRxPwrUs`
- * `adsl2LConfProfPsdMaskDs`
- * `adsl2LConfProfPsdMaskUs`
- * `adsl2LConfProfPsdMaskSelectUs`
- * `adsl2LConfProfModeSpecRowStatus`

Unauthorized changes resulting in the setting of any of the above objects to an incorrect value could have an adverse operational effect on several lines.

Also, unauthorized changes to `adsl2LConfProfModeSpecRowStatus` could result in unwanted PSD configurations being created or brought into service prematurely; or could result in PSD configurations being inadvertently deleted or taken out of service.

o `adsl2ChConfProfileTable`

The table consists of the following objects that support SET operations:

- * `adsl2ChConfProfMinDataRateDs`
- * `adsl2ChConfProfMinDataRateUs`
- * `adsl2ChConfProfMinResDataRateDs`
- * `adsl2ChConfProfMinResDataRateUs`
- * `adsl2ChConfProfMaxDataRateDs`
- * `adsl2ChConfProfMaxDataRateUs`
- * `adsl2ChConfProfMinDataRateLowPwrDs`
- * `adsl2ChConfProfMinDataRateLowPwrUs`
- * `adsl2ChConfProfMaxDelayDs`
- * `adsl2ChConfProfMaxDelayUs`
- * `adsl2ChConfProfMinProtectionDs`

- * adsl2ChConfProfMinProtectionUs
- * adsl2ChConfProfMaxBerDs
- * adsl2ChConfProfMaxBerUs
- * adsl2ChConfProfUsDataRateDs
- * adsl2ChConfProfDsDataRateDs
- * adsl2ChConfProfUsDataRateUs
- * adsl2ChConfProfDsDataRateUs
- * adsl2ChConfProfImaEnabled
- * adsl2ChConfProfRowStatus

Unauthorized changes resulting in the setting of any of the above objects to an incorrect value could have an adverse operational effect on several lines.

Also, unauthorized changes to adsl2ChConfProfRowStatus could result in unwanted channel profiles being created or brought into service prematurely; or could result in channel profiles being inadvertently deleted or taken out of service.

o adsl2LineAlarmConfTemplateTable

The table consists of the following objects that support SET operations:

- * adsl2LAlarmConfTempLineProfile
- * adsl2LAlarmConfTempChan1ConfProfile
- * adsl2LAlarmConfTempChan2ConfProfile
- * adsl2LAlarmConfTempChan3ConfProfile
- * adsl2LAlarmConfTempChan4ConfProfile
- * adsl2LAlarmConfTempRowStatus

Unauthorized changes to adsl2LAlarmConfTempLineProfile, adsl2LAlarmConfTempChan1ConfProfile, adsl2LAlarmConfTempChan2ConfProfile, adsl2LAlarmConfTempChan3ConfProfile, or adsl2LAlarmConfTempChan4ConfProfile could have an adverse effect on the management of notifications generated at the scope of several to many lines; or could change several to many lines over to running with unwanted management rates for generated notifications.

Unauthorized changes to adsl2LAlarmConfTempRowStatus could result in alarm templates being created or brought into service prematurely; or could result in alarm templates being inadvertently deleted or taken out of service.

o adsl2LineAlarmConfProfileTable

The table consists of the following objects that support SET operations:

- * adsl2LineAlarmConfProfileAtucThresh15MinFecSeconds
- * adsl2LineAlarmConfProfileAtucThresh15MinEs
- * adsl2LineAlarmConfProfileAtucThresh15MinSes
- * adsl2LineAlarmConfProfileAtucThresh15MinLoss
- * adsl2LineAlarmConfProfileAtucThresh15MinUas
- * adsl2LineAlarmConfProfileAturThresh15MinFecSeconds
- * adsl2LineAlarmConfProfileAturThresh15MinEs
- * adsl2LineAlarmConfProfileAturThresh15MinSes
- * adsl2LineAlarmConfProfileAturThresh15MinLoss
- * adsl2LineAlarmConfProfileAturThresh15MinUas
- * adsl2LineAlarmConfProfileThresh15MinFailedFullInt
- * adsl2LineAlarmConfProfileThresh15MinFailedShrtInt
- * adsl2LineAlarmConfProfileRowStatus

Increasing any of the threshold values could result in a notification being suppressed or deferred. Setting a threshold to 0 could result in a notification being suppressed. Suppressing or deferring a notification could prevent the timely delivery of important diagnostic information. Decreasing any of the threshold values could result in a notification being sent from the network falsely reporting a threshold crossing.

Changing a threshold value could also have an impact on the amount of notifications the agent sends. The Notifications Section of this document has a paragraph which provides general guidance on the rate limiting of notifications. Agent implementations not providing rate limiting could result in notifications being generated at an uncontrolled rate. Unauthorized changes to a threshold value could result in an undesired notification rate.

Unauthorized changes to row status could result in unwanted line alarm profiles being created or brought into service. Also, changes to the row status could result in line alarm profiles being inadvertently deleted or taken out of service.

o adsl2ChAlarmConfProfileTable

The table consists of the following objects that support SET operations:

- * adsl2ChAlarmConfProfileAtucThresh15MinCodingViolations
- * adsl2ChAlarmConfProfileAtucThresh15MinCorrected

- * adsl2ChAlarmConfProfileAturThresh15MinCodingViolations
- * adsl2ChAlarmConfProfileAturThresh15MinCorrected
- * adsl2ChAlarmConfProfileRowStatus
- * adsl2LineAlarmConfProfileAturThresh15MinFecSeconds
- * adsl2LineAlarmConfProfileAturThresh15MinEs
- * adsl2LineAlarmConfProfileAturThresh15MinSes
- * adsl2LineAlarmConfProfileAturThresh15MinLoss
- * adsl2LineAlarmConfProfileAturThresh15MinUas
- * adsl2LineAlarmConfProfileThresh15MinFailedFullInt
- * adsl2LineAlarmConfProfileThresh15MinFailedShrtInt
- * adsl2LineAlarmConfProfileRowStatus

Increasing any of the threshold values could result in a notification being suppressed or deferred. Setting a threshold to 0 could result in a notification being suppressed. Suppressing or deferring a notification could prevent the timely delivery of important diagnostic information. Decreasing any of the threshold values could result in a notification being sent from the network falsely reporting a threshold crossing.

Changing a threshold value could also have an impact on the amount of notifications the agent sends. The Notifications Section of this document has a paragraph which provides general guidance on the rate limiting of notifications. Agent implementations not providing rate limiting could result in notifications being generated at an uncontrolled rate. Unauthorized changes to a threshold value could result in an undesired notification rate.

Unauthorized changes to row status could result in unwanted channel alarm profiles being created or brought into service. Also, changes to the row status could result in channel alarm profiles being inadvertently deleted or taken out of service.

Some of the readable objects in this MIB module (i.e., objects with a MAX-ACCESS other than not-accessible) may be considered sensitive or vulnerable in some network environments. It is thus important to control even GET and/or NOTIFY access to these objects and possibly to even encrypt the values of these objects when sending them over the network via SNMP. These are the tables and objects and their sensitivity/vulnerability:

- o adsl2LineInventoryTable

Access to these objects would allow an intruder to obtain information about which vendor's equipment is in use on the network. Further, such information is considered sensitive in many environments for competitive reasons.

- * adsl2LInvG994VendorId
- * adsl2LInvSystemVendorId
- * adsl2LInvVersionNumber
- * adsl2LInvSerialNumber
- * adsl2LInvSelfTestResult
- * adsl2LInvTransmissionCapabilities

SNMP versions prior to SNMPv3 did not include adequate security. Even if the network itself is secure (for example by using IPSec), even then, there is no control as to who on the secure network is allowed to access and GET/SET (read/change/create/delete) the objects in this MIB module.

It is RECOMMENDED that implementers consider the security features as provided by the SNMPv3 framework (see [\[RFC3410\]](#), [Section 8](#)), including full support for the SNMPv3 cryptographic mechanisms (for authentication and privacy).

It is RECOMMENDED to deploy SNMPv3 and to enable cryptographic security. It is then a customer/operator responsibility to ensure that the SNMP entity giving access to an instance of this MIB module is properly configured to give access only to those objects whose principals (users) have legitimate rights to indeed GET or SET (change/create/delete) them.

[6.](#) Acknowledgments

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Randy Presuhn (Mindspring)

[7.](#) References

[7.1.](#) Normative References

- [G.992.1] "Asymmetric digital subscriber line (ADSL) transceivers", ITU-T G.992.1, 1999.
- [G.992.2] "Splitterless asymmetric digital subscriber line (ADSL) transceivers", ITU-T G.992.2, 1999.

- [G.992.3] "Asymmetric digital subscriber line transceivers 2 (ADSL2)", ITU-T G.992.3, 2002.
- [G.992.4] "Splitterless asymmetric digital subscriber line transceivers 2 (Splitterless ADSL2)", ITU-T G.992.4, 2002.
- [G.992.5] "Asymmetric digital subscriber line (ADSL) transceivers - Extended bandwidth ADSL2 (ADSL2+)", ITU-T G.992.5, 2003.
- [G.993.2] "Very-high speed Digital Subscriber Line Transceivers 2 (VDSL2 draft)", ITU-T G.993.2, July 2005.
- [G.997.1] "Physical layer management for digital subscriber line (DSL) transceivers", ITU-T G.997.1, May 2003.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.
- [RFC2578] McCloghrie, K., Ed., Perkins, D., Ed., and J. Schoenwaelder, Ed., "Structure of Management Information Version 2 (SMIv2)", STD 58, [RFC 2578](#), April 1999.
- [RFC2579] McCloghrie, K., Ed., Perkins, D., Ed., and J. Schoenwaelder, Ed., "Textual Conventions for SMIv2", STD 58, [RFC 2579](#), April 1999.
- [RFC2580] McCloghrie, K., Perkins, D., and J. Schoenwaelder, "Conformance Statements for SMIv2", STD 58, [RFC 2580](#), April 1999.
- [RFC2863] McCloghrie, K. and F. Kastenholz, "The Interfaces Group MIB", [RFC 2863](#), June 2000.
- [RFC3411] Harrington, D., Presuhn, R., and B. Wijnen, "An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks", STD 62, [RFC 3411](#), December 2002.
- [RFC3593] Tesink, K., "Textual Conventions for MIB Modules Using Performance History Based on 15 Minute Intervals", [RFC 3593](#), September 2003.
- [T1E1.413] J. Bingham & F. Van der Putten, "Network and Customer Installation Interfaces - Asymmetric Digital Subscriber Line (ADSL) Metallic Interface. (T1.413 Issue 2)", ANSI T1E1.413-1998, June 1998.

- [TR-90] Abbi, R., "Protocol Independent Object Model for Managing Next Generation ADSL Technologies", DSL Forum TR-90, May 2004.

7.2. Informative References

- [RFC2662] Bathrick, G. and F. Ly, "Definitions of Managed Objects for the ADSL Lines", [RFC 2662](#), August 1999.
- [RFC3410] Case, J., Mundy, R., Partain, D., and B. Stewart, "Introduction and Applicability Statements for Internet-Standard Management Framework", [RFC 3410](#), December 2002.
- [RFC3418] Presuhn, R., "Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)", STD 62, [RFC 3418](#), December 2002.

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