

Virtual Private Lan Services (VPLS) Management Information Base

[draft-nadeau-l2vpn-vpls-mib-03.txt](#)

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Abstract

This memo defines an experimental portion of the Management Information Base for use with network management protocols in the Internet community. In particular, it describes managed objects for modeling of Virtual Private LAN services. It needs to be used in conjunction with Pseudo Wire (PW) Management Information Base [[PWE3-PW-MIB](#)].

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[1](#) Introduction

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in the Internet community. In particular, it defines a MIB module that can be used to manage VPLS(Virtual Private LAN Services for transmission over a packet Switched Network (PSN) using LDP [L2VPN-VPLS-LDP] or BGP[L2VPN-VPLS-BGP] signalling. This MIB module provides generic management of VPLS services as defined by the IETF L2VPN Working Group.

Comments should be made directly to the L2VPN mailing list at 12vpn@ietf.org.

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 [\[RFC2119\]](#).

Conventions used in this document

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](#) [BCP14].

[1.1](#). Changes from version 00 to 01

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[NOTE to RFC Editor: this section is to be removed before publication.]

- 1.1.1. Split the MIB modules into VPLS-GENERIC-DRAFT-01-MIB, VPLS-LDP-DRAFT-01-MIB, VPLS-BGP-DRAFT-01-MIB. The generic MIB Module will contain information common to both LDP and BGP signalled VPLS.
- 1.1.2. Moved certain objects from vplsConfigTable to vplsStatusTable.
- 1.1.3. Added new objects to the vplsLdpPwBindTable.
- 1.1.4. Retained MAC related objects since there is specific reference in [L2VPN-VPLS-LDP] and [L2VPN-VPLS-BGP].

1.2. Changes from version 01 to 02

[NOTE to RFC Editor: this section is to be removed before publication.]

- 1.2.1. Added new objects to the vplsConfigTable.
- 1.2.2. Editorial changes.

1.3. Changes from version 02 to 03

[NOTE to RFC Editor: this section is to be removed before publication.]

- 1.3.1. Added the VPLS-BGP-DRAFT-01-MIB module.

2 Terminology

This document adopts the definitions, acronyms and mechanisms described in [[RFC3985](#)]. Unless otherwise stated, the mechanisms of [[RFC3985](#)] apply and will not be re-described here.

3 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

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is described in STD 58, [RFC 2578 \[RFC2578\]](#), STD 58, [RFC 2579 \[RFC2579\]](#) and STD 58, [RFC 2580 \[RFC2580\]](#).

4. VPLS MIB Module Architecture

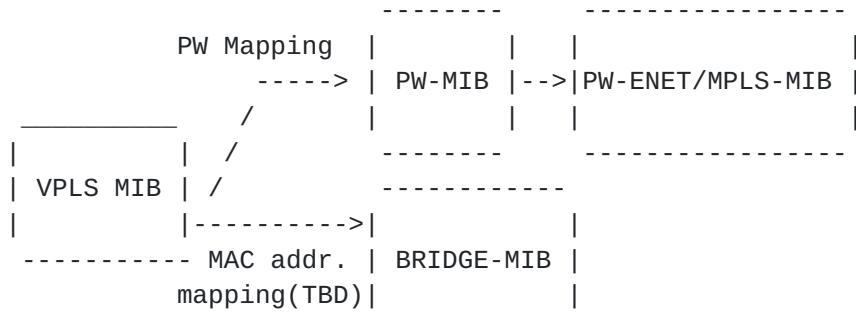
The MIB structure for defining a VPLS service is composed from four types of MIB modules.

The first type is the VPLS-GENERIC-DRAFT-01-MIB module, which configures general parameters of the VPLS service that are common to all types of emulated services.

The second type is the VPLS-LDP-DRAFT-01-MIB module, which configures VPLS-LDP[L2VPN-VPLS-LDP] specific parameters of the VPLS service.

The third type is the VPLS-BGP-DRAFT-01-MIB module, which configures VPLS-BGP[L2VPN-VPLS-BGP] specific parameters of the VPLS service.

The fourth type of modules are service-specific modules, which are defined in other documents.



4.1. VPLS-GENERIC-DRAFT-01-MIB Module Usage

An entry in the `vplsConfigTable` MUST exist for a VPLS service.

This table holds generic parameters which apply to a VPLS service which can be signalled via LDP or BGP.

A conceptual row can be created in the `vplsConfigTable` in one of the following ways:

- 1) The operator creates a row in the `vplsConfigTable` when configuring the node for a new service. This mode MUST be supported by the agent, and MUST be used when creating a manually assigned VPLS service.

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- 2) The agent MAY create a row in the vplsConfigTable automatically due to some auto discovery application, or based on configuration that is done through non-SNMP applications. This mode is OPTIONAL.

An entry in the vplsPwBindTable MUST exist for a VPLS service. This binding table links one VPLS service with one or many pseudo wires (defined in [\[PWE3-PW-MIB\]](#)). The pseudo wire may be used as a spoke or a mesh based on the parameters defined in this table.

The agent than creates the rows in the (locally supported) performance tables and reverse mapping tables in VPLS-GENERIC-DRAFT-01-MIB module.

[**4.2. VPLS-LDP-DRAFT-01-MIB Module Usage**](#)

An entry in the vplsLdpConfigTable MUST be created by the agent for a VPLS service signalled using LDP.

[**4.3. VPLS-BGP-DRAFT-01-MIB Module Usage**](#)

An entry in the vplsBgpConfigTable MUST be created by the agent for a VPLS service signalled using LDP.

[**4.4. Relations to other MIB modules**](#)

- The vplsPwBindTable links the VPLS entry to various entries in the [\[PWE3-PW-MIB\]](#)
- The association of MAC addresses to VPLS entries is TBD. Presently investigating BRIDGE-MIB to accomodate the same.
- Unless all the necessary entries in the applicable tables have been created and all the parameters have been consistently configured in those tables, signaling cannot be performed from the local node, and the ??? should report 'notPresent'.
- Statistics can be gathered from the [\[PWE3-PW-MIB\]](#) - TBD

[**5 Example of the VPLS MIB modules usage**](#)

In this section we provide an example of using the MIB objects described in [section 7](#) to set up a VPLS service over MPLS. While this example is not meant to illustrate every permutation of the

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MIB, it is intended as an aid to understanding some of the key concepts. It is meant to be read after going through the MIB itself.

In the VPLS-GENERIC-DRAFT-01-MIB module:

In vplsConfigTable:

```
{
    vplsConfigIndex                      10,
    vplsConfigName                       "VPLS-A"
    vplsConfigAdminStatus                1(up),
    vplsConfigMacLearning                1(true),
    vplsConfigDiscardUnknownDest        2(false),
    vplsConfigMacAging                  1(true),
    vplsConfigVpnId                     "100:10"
    vplsConfigRowStatus                 1(active)
}
```

In vplsStatusTable:

```
{
    vplsStatusOperStatus                1(up),
}
```

In the VPLS-LDP-DRAFT-01-MIB module:

In vplsLdpConfigTable:

```
{
    vplsLdpConfigMacAddrWithdraw       1(true),
}
```

In vplsLdpPwBindTable:

```
{
    vplsLdpPwBindType                 1(mesh),
    vplsLdpPwBindMacAddressLimit     100
}
```

6 Object definitions

6.1 VPLS-GENERIC-DRAFT-01-MIB

This MIB module makes references to the following documents.

[[RFC2578](#)], [[RFC2579](#)], [[RFC2580](#)], [[RFC2571](#)], [[RFC3411](#)], [[RFC2863](#)], [[RFC4001](#)], [[RFC4265](#)] and [[RFC3813](#)].

VPLS-GENERIC-DRAFT-01-MIB DEFINITIONS ::= BEGIN

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```
IMPORTS
NOTIFICATION-TYPE, MODULE-IDENTITY, OBJECT-TYPE,
Unsigned32, Counter32, transmission
    FROM SNMPv2-SMI          -- RFC2578
MODULE-COMPLIANCE, OBJECT-GROUP, NOTIFICATION-GROUP
    FROM SNMPv2-CONF          -- RFC2580
TruthValue, RowStatus, StorageType
    FROM SNMPv2-TC            -- RFC2579
SnmpAdminString
    FROM SNMP-FRAMEWORK-MIB   -- RFC3411
PwIndexType
    FROM PW-TC-STD-MIB
VPNIdOrZero
    FROM VPN-TC-STD-MIB       -- RFC4265
; 
```

```
vplsGenericDraft01MIB MODULE-IDENTITY
LAST-UPDATED "200608301200Z"  -- 30 Aug 2006 12:00:00 GMT
ORGANIZATION "Layer 2 Virtual Private Networks (L2VPN)
                Working Group"
CONTACT-INFO
"
Thomas D. Nadeau
Email: tnadeau@cisco.com

The L2VPN Working Group (email distribution l2vpn@ietf.org,
http://www.ietf.org/html.charters/l2vpn-charter.html)
" 
```

DESCRIPTION

```
"Copyright (C) The Internet Society (2007). The initial
version of this MIB module was published in RFC XXXX.
-- RFC Editor: Please replace XXXX with RFC number & remove
--                      this note. 
```

For full legal notices see the RFC itself or see:
<http://www.ietf.org/copyrights/ianamib.html>

This MIB module contains generic managed object definitions
for Virtual Private LAN Services as in [L2VPN-VPLS-LDP] and
[L2VPN-VPLS-BGP]

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This MIB module enables the use of any underlying Pseudo Wire network."

-- Revision history.

REVISION

"200608301200Z" -- 30 August 2006 12:00:00 GMT

DESCRIPTION

"Changes from previous version:

- 1) Moved LDP Specific information to VPLS-LDP-DRAFT-01-MIB
- 2) Created the vplsStatusTable to store status information.
- 3)

"

REVISION

"200606041200Z" -- 4 June 2006 12:00:00 GMT

DESCRIPTION "Initial version published as part of RFC YYYY."

-- RFC Editor: please replace YYYY with IANA assigned value, and
-- delete this note.

::= { transmission XXXX }

-- RFC Editor: please replace XXXX with IANA assigned value, and
-- delete this note.

-- Top-level components of this MIB.

-- Notifications

vplsNotifications OBJECT IDENTIFIER
::= { vplsGenericDraft01MIB 0 }

-- Tables, Scalars

vplsObjects OBJECT IDENTIFIER
::= { vplsGenericDraft01MIB 1 }

-- Conformance

vplsConformance OBJECT IDENTIFIER
::= { vplsGenericDraft01MIB 2 }

-- PW Virtual Connection Table

vplsConfigIndexNext OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object contains an appropriate value to be used
for vplsConfigIndex when creating entries in the
vplsConfigTable. The value 0 indicates that no
unassigned entries are available. To obtain the
value of vplsConfigIndex for a new entry in the

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vplsConfigTable, the manager issues a management protocol retrieval operation to obtain the current value of vplsConfigIndex. After each retrieval operation, the agent should modify the value to reflect the next unassigned index. After a manager retrieves a value the agent will determine through its local policy when this index value will be made available for reuse."

```

 ::= { vplsObjects 1 }

vplsConfigTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF VplsConfigEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table specifies information for configuring
         and monitoring Virtual Private Lan Services(VPLS).
         "
 ::= { vplsObjects 2 }

vplsConfigEntry OBJECT-TYPE
    SYNTAX      VplsConfigEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A row in this table represents a Virtual Private Lan
         Service(VPLS) in a packet network. It is indexed by
         vplsConfigIndex, which uniquely identifies a single VPLS.

        A row is created by the operator or by the agent if a
        VPLS service is created by non-SNMP application or
        due to autodiscovery process.

        None of the read-create objects values can be
        changed when vplsConfigRowStatus is in the active(1)
        state. Changes are allowed when the vplsConfigRowStatus
        is in notInService(2) or notReady(3) states only.
        If the operator need to change one of the values
        for an active row the vplsConfigRowStatus should be
        first changed to notInService(2), the objects may
        be changed now, and later to active(1) in order to
        re-initiate the signaling process with the new
        values in effect.
        "
INDEX      { vplsConfigIndex }
 ::= { vplsConfigTable 1 }

```

VplsConfigEntry ::=

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```

SEQUENCE {
    vplsConfigIndex                               Unsigned32,
    vplsConfigName                                SnmpAdminString,
    vplsConfigDescr                               SnmpAdminString,
    vplsConfigAdminStatus                         INTEGER,
    vplsConfigMacLearning                        TruthValue,
    vplsConfigDiscardUnknownDest                 TruthValue,
    vplsConfigMacAging                           TruthValue,
    vplsConfigFwdFullHighWatermark              Unsigned32,
    vplsConfigFwdFullLowWatermark               Unsigned32,
    vplsConfigRowStatus                          RowStatus,
    vplsConfigMtu                               Unsigned32,
    vplsConfigVpnId                            VPNIdOrZero,
    vplsConfigServiceType                      INTEGER,
    vplsConfigStorageType                     StorageType
}

vplsConfigIndex   OBJECT-TYPE
    SYNTAX          Unsigned32 (1.. 2147483647)

    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "Unique index for the conceptual row identifying
         a VPLS service."
    ::= { vplsConfigEntry 1 }

vplsConfigName   OBJECT-TYPE
    SYNTAX          SnmpAdminString
    MAX-ACCESS      read-create
    STATUS          current
    DESCRIPTION
        "A textual name of the VPLS.
         If there is no local name, or this object is
         otherwise not applicable, then this object MUST
         contain a zero-length octet string."
    DEFVAL          { "" }
    ::= { vplsConfigEntry 2 }

vplsConfigDescr  OBJECT-TYPE
    SYNTAX          SnmpAdminString
    MAX-ACCESS      read-create
    STATUS          current
    DESCRIPTION
        "A textual string containing information about the
         VPLS service. If there is no information for this VPLS

```

service, then this object MUST contain a zero-length

```

    octet string."
DEFVAL          { "" }
 ::= { vplsConfigEntry 3 }

vplsConfigAdminStatus OBJECT-TYPE
SYNTAX          INTEGER {
                  up(1),
                  down(2),
                  testing(3)   -- in some test mode
}
MAX-ACCESS      read-create
STATUS          current
DESCRIPTION
"The desired administrative state of the VPLS
service. If the administrative status of the
Vpls service is changed to enable then this
service is able to utilize the pseudo wire to
perform the tasks of a VPLS service.
The testing(3) state indicates that no operational
packets can be passed. "

DEFVAL          { down }
 ::= { vplsConfigEntry 4 }

vplsConfigMacLearning OBJECT-TYPE
SYNTAX          TruthValue
MAX-ACCESS      read-create
STATUS          current
DESCRIPTION
"This object specifies if MAC Learning is enabled
in this service. If this object is true then Mac
Learning is enabled. If false, then Mac Learning is
disabled."
DEFVAL          { true }
 ::= { vplsConfigEntry 6 }

vplsConfigDiscardUnknownDest OBJECT-TYPE
SYNTAX          TruthValue
MAX-ACCESS      read-create
STATUS          current
DESCRIPTION
"If the value of this object is 'true', then frames
received with an unknown destination MAC are discarded
in this VPLS. If 'false', then the packets are
processed."

```

DEFVAL

{ false }

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```
 ::= { vplsConfigEntry 7 }

vplsConfigMacAging OBJECT-TYPE
    SYNTAX          TruthValue
    MAX-ACCESS     read-create
    STATUS         current
    DESCRIPTION
        "If the value of this object is 'true'
        then the MAC ageing process is enabled in
        this VPLS. If 'false', then the MAC ageing process
        is disabled"
    DEFVAL         { true }
 ::= { vplsConfigEntry 8 }

vplsConfigFwdFullHighWatermark OBJECT-TYPE
    SYNTAX          Unsigned32 (0..100)
    UNITS           "percentage"
    MAX-ACCESS     read-create
    STATUS         current
    DESCRIPTION
        "This object specifies the utilization of the
        forwarding database for this VPLS instance at
        which the vplsFwdFullAlarmRaised notification
        will be sent."
    DEFVAL         { 95 }
 ::= { vplsConfigEntry 10 }

vplsConfigFwdFullLowWatermark OBJECT-TYPE
    SYNTAX          Unsigned32 (0..100)
    UNITS           "percentage"
    MAX-ACCESS     read-create
    STATUS         current
    DESCRIPTION
        "This object specifies the utilization of the
        forwarding database for this VPLS instance
        at which the vplsFwdFullAlarmCleared
        notification will be sent."
    DEFVAL         { 90 }
 ::= { vplsConfigEntry 11 }

vplsConfigRowStatus OBJECT-TYPE
    SYNTAX          RowStatus
    MAX-ACCESS     read-create
    STATUS         current
    DESCRIPTION
```

"For creating, modifying, and deleting this row.

```
None of the read-create objects in the
conceptual rows may be changed when this
object is in the active(1) state."
 ::= { vplsConfigEntry 12 }

vplsConfigMtu OBJECT-TYPE
    SYNTAX          Unsigned32 (64..1518)
    MAX-ACCESS      read-create
    STATUS          current
    DESCRIPTION
        "The value of this object specifies the MTU of this
         vpls instance."
    DEFVAL          { 1518 }
 ::= { vplsConfigEntry 13 }

vplsConfigVpnId OBJECT-TYPE
    SYNTAX          VPNIIdOrZero
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This objects indicates the IEEE 802-1990
         VPN ID of the associated VPLS service."
-- Ed note: Should we import the VPNIIdOrZero TC or
--           define a new TC?
 ::= { vplsConfigEntry 14 }

vplsConfigServiceType OBJECT-TYPE
    SYNTAX          INTEGER {
                      vlan      (1),
                      ethernet (2)
                  }
    MAX-ACCESS      read-create
    STATUS          current
    DESCRIPTION
        "The value of this object specifies the type of
         service emulated by this vpls instance."
    DEFVAL          { vlan }
 ::= { vplsConfigEntry 15 }

vplsConfigStorageType OBJECT-TYPE
    SYNTAX          StorageType
    MAX-ACCESS      read-create
    STATUS          current
    DESCRIPTION
        "This variable indicates the storage type for this row."
    DEFVAL { volatile }
 ::= { vplsConfigEntry 16 }
```

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-- VPLS Status table

```

vplsStatusTable OBJECT-TYPE
    SYNTAX          SEQUENCE OF VplsStatusEntry
    MAX-ACCESS     not-accessible
    STATUS         current
    DESCRIPTION

        "This table provides information for monitoring
        Virtual Private Lan Services(VPLS).
        "
        ::= { vplsObjects 3 }

vplsStatusEntry OBJECT-TYPE
    SYNTAX          VplsStatusEntry
    MAX-ACCESS     not-accessible
    STATUS         current
    DESCRIPTION
        "A row in this table represents a Virtual Private Lan
        Service(VPLS) in a packet network. It is indexed by
        vplsConfigIndex, which uniquely identifies a single VPLS.

        A row in this table is automatically created by the agent
        when a VPLS service is configured.
        "
    INDEX          { vplsConfigIndex }
    ::= { vplsStatusTable 1 }

VplsStatusEntry ::=
SEQUENCE {
    vplsStatusOperStatus                      INTEGER,
    vplsStatusPeerCount                      Counter32
}

vplsStatusOperStatus OBJECT-TYPE
    SYNTAX          INTEGER {
                    other(0),
                    up(1),
                    down(2)
                }
    MAX-ACCESS     read-only
    STATUS         current
    DESCRIPTION
        "The current operational state of this VPLS Service."
    ::= { vplsStatusEntry 1 }

vplsStatusPeerCount OBJECT-TYPE

```

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```

SYNTAX          Counter32
MAX-ACCESS     read-only
STATUS         current
DESCRIPTION
  "This objects specifies the number of peers
  present in this vpls instance."
 ::= { vplsStatusEntry 2 }

-- VPLS PW Binding Table

vplsPwBindTable OBJECT-TYPE
  SYNTAX          SEQUENCE OF VplsPwBindEntry
  MAX-ACCESS     not-accessible
  STATUS         current
  DESCRIPTION
    "This table provides an association between a
    VPLS service and the corresponding Pseudo
    Wires. A service can have more than one Pseudo
    Wire association. Pseudo Wires are defined in
    the pwTable"
 ::= { vplsObjects 4 }

vplsPwBindEntry OBJECT-TYPE
  SYNTAX          VplsPwBindEntry
  MAX-ACCESS     not-accessible
  STATUS         current
  DESCRIPTION
    "Each row represents an association between a
    VPLS instance and one or more Pseudo Wires
    defined in the pwTable. Each index is unique
    in describing an entry in this table. However
    both indexes are required to define the one
    to many association of service to
    pseudowire."
 INDEX  { vplsConfigIndex, vplsPwBindIndex }
 ::= { vplsPwBindTable 1 }

VplsPwBindEntry ::=
  SEQUENCE {
    vplsPwBindIndex          PwIndexType,
    vplsPwBindConfigType     INTEGER,
    vplsPwBindType            INTEGER,
    vplsPwBindRowStatus      RowStatus,
    vplsPwBindStorageType    StorageType
  }

```

vplsPwBindIndex

OBJECT - TYPE

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```

SYNTAX          PwIndexType
MAX-ACCESS     not-accessible
STATUS         current
DESCRIPTION
  "Secondary Index for the conceptual row identifying
  a pseudowire within the PwEntry which MUST
  match an entry from the PW-STD-MIB's PwTable
  which represents an already-provisioned
  pseuwowire that is then associated with this
  VPLS instance."
 ::= { vplsPwBindEntry 1 }

vplsPwBindConfigType   OBJECT-TYPE
  SYNTAX          INTEGER {
    manual          (1),
    autodiscovery  (2)
  }
  MAX-ACCESS     read-create
  STATUS         current
  DESCRIPTION
    "The value of this object indicates
    whether the Pseudo Wire binding was created
    manually or via autodiscovery.

    The value of this object must be
    specified when the row is created and cannot
    be changed while the row status is active(1)"
 ::= { vplsPwBindEntry 2 }

vplsPwBindType        OBJECT-TYPE
  SYNTAX          INTEGER {
    mesh    (1),
    spoke   (2)
  }
  MAX-ACCESS     read-create
  STATUS         current
  DESCRIPTION
    "The value of this object indicates
    whether the Pseudo Wire binding is of
    type mesh or spoke.

    The value of this object must be
    specified when the row is created and cannot
    be changed while the row status is active(1)"
 ::= { vplsPwBindEntry 3 }

vplsPwBindRowStatus   OBJECT-TYPE

```

SYNTAX

RowStatus

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```
MAX-ACCESS      read-create
STATUS         current
DESCRIPTION
    "For creating, modifying, and deleting this row.
     None of the read-create objects in the
     conceptual rows may be changed when this
     object is in the active(1) state"
 ::= { vplsPwBindEntry 4 }

vplsPwBindStorageType OBJECT-TYPE
    SYNTAX          StorageType
    MAX-ACCESS     read-create
    STATUS         current
    DESCRIPTION
        "This variable indicates the storage type for this row."
    DEFVAL { volatile }
 ::= { vplsPwBindEntry 5 }

vplsStatusNotifEnable  OBJECT-TYPE
    SYNTAX          TruthValue
    MAX-ACCESS     read-write
    STATUS         current
    DESCRIPTION
        "If this object is set to true(1), then it enables
         the emission of vplsStatusChanged
         notification; otherwise this notification is not
         emitted."
    REFERENCE
        "See also [RFC3413] for explanation that
         notifications are under the ultimate control of the
         MIB module in this document."
    DEFVAL { false }
 ::= { vplsObjects 5 }

vplsNotificationMaxRate OBJECT-TYPE
    SYNTAX          Unsigned32
    MAX-ACCESS     read-write
    STATUS         current
    DESCRIPTION
        "This object indicates the maximum number of
         notifications issued per second. If events occur
         more rapidly, the implementation may simply fail to
         emit these notifications during that period, or may
         queue them until an appropriate time. A value of 0
         means no throttling is applied and events may be
         notified at the rate at which they occur."
    DEFVAL      { 0 }
```

`::= { vplsObjects 6 }`

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```
-- VPLS Service Notifications

vplsStatusChanged NOTIFICATION-TYPE
    OBJECTS {
        vplsConfigVpnId,
        vplsConfigAdminStatus,
        vplsStatusOperStatus
    }
    STATUS      current
    DESCRIPTION
        "The vplsStatusChanged notification is generated
         when there is a change in the administrative or
         operating status of a VPLS service."
    ::= { vplsNotifications 1 }

vplsFwdFullAlarmRaised NOTIFICATION-TYPE
    OBJECTS {
        vplsConfigVpnId,
        vplsConfigFwdFullHighWatermark,
        vplsConfigFwdFullLowWatermark
    }
    STATUS      current
    DESCRIPTION
        "The vplsFwdFullAlarmRaised notification is
         generated when the utilization of the Forwarding
         database is above the value specified by
         vplsConfigFwdFullHighWatermark."
    ::= { vplsNotifications 2 }

vplsFwdFullAlarmCleared NOTIFICATION-TYPE
    OBJECTS {
        vplsConfigVpnId,
        vplsConfigFwdFullHighWatermark,
        vplsConfigFwdFullLowWatermark
    }
    STATUS      current
    DESCRIPTION
        "The vplsFwdFullAlarmCleared notification is
         generated when the utilization of the Forwarding
         database is below the value specified by
         vplsConfigFwdFullLowWatermark."
    ::= { vplsNotifications 3 }

-- Compliance requirement for read-only implementations.

vplsCompliances
```

OBJECT IDENTIFIER ::= { vplsConformance 1 }

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```
vplsModuleFullCompliance MODULE-COMPLIANCE
  STATUS current
  DESCRIPTION
    "Compliance requirement for implementations that
     provide full support for VPLS-GENERIC-DRAFT-01-MIB.
     Such devices can then be monitored and configured using
     this MIB module."
  MODULE -- this module

  MANDATORY-GROUPS {
    vplsGroup,
    vplsPwBindGroup,
    vplsNotificationGroup
  }

 ::= { vplsCompliances 1 }

vplsModuleReadOnlyCompliance MODULE-COMPLIANCE
  STATUS current
  DESCRIPTION
    "Compliance requirement for implementations that only
     provide read-only support for VPLS-GENERIC-DRAFT-01-MIB.
     Such devices can then be monitored but cannot be
     configured using this MIB modules."

  MODULE -- this module

  MANDATORY-GROUPS {
    vplsGroup,
    vplsPwBindGroup,
    vplsNotificationGroup
  }

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

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

  OBJECT          vplsConfigAdminStatus
  MIN-ACCESS      read-only
```

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DESCRIPTION
"Write access is not required."

OBJECT vplsConfigMacLearning
MIN-ACCESS read-only

DESCRIPTION
"Write access is not required."

OBJECT vplsConfigDiscardUnknownDest
MIN-ACCESS read-only

DESCRIPTION
"Write access is not required."

OBJECT vplsConfigMacAging
MIN-ACCESS read-only

DESCRIPTION
"Write access is not required."

OBJECT vplsConfigFwdFullHighWatermark
MIN-ACCESS read-only

DESCRIPTION
"Write access is not required."

OBJECT vplsConfigFwdFullLowWatermark
MIN-ACCESS read-only

DESCRIPTION
"Write access is not required."

OBJECT vplsConfigRowStatus
MIN-ACCESS read-only

DESCRIPTION
"Write access is not required."

OBJECT vplsConfigMtu
MIN-ACCESS read-only

DESCRIPTION
"Write access is not required."

OBJECT vplsConfigServiceType
MIN-ACCESS read-only

DESCRIPTION
"Write access is not required."

OBJECT vplsPwBindConfigType
MIN-ACCESS read-only

DESCRIPTION
"Write access is not required."

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

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

 ::= { vplsCompliances 2 }

-- Units of conformance.

vplsGroups
OBJECT IDENTIFIER ::= { vplsConformance 2 }

vplsGroup OBJECT-GROUP
OBJECTS {
    vplsConfigName,
    vplsConfigDescr,
    vplsConfigAdminStatus,
    vplsConfigMacLearning,
    vplsConfigDiscardUnknownDest,
    vplsConfigMacAging,
    vplsConfigVpnId,
    vplsConfigFwdFullHighWatermark,
    vplsConfigFwdFullLowWatermark,
    vplsConfigRowStatus,
    vplsConfigIndexNext,
    vplsConfigMtu,
    vplsConfigServiceType,
    vplsConfigStorageType,

    vplsStatusOperStatus,
    vplsStatusPeerCount,

    vplsStatusNotifEnable,
    vplsNotificationMaxRate
}
STATUS          current
DESCRIPTION
    "The group of objects supporting
        management of L2VPN VPLS services"
 ::= { vplsGroups 1 }

vplsPwBindGroup OBJECT-GROUP
```

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```

OBJECTS {
    vplsPwBindConfigType,
    vplsPwBindType,
    vplsPwBindRowStatus,
    vplsPwBindStorageType
}
STATUS      current
DESCRIPTION
    "The group of objects supporting
     management of
     Pseudo Wire (PW) Binding to VPLS."
 ::= { vplsGroups 2 }

vplsNotificationGroup NOTIFICATION-GROUP
NOTIFICATIONS {
    vplsStatusChanged,
    vplsFwdFullAlarmRaised,
    vplsFwdFullAlarmCleared
}
STATUS      current
DESCRIPTION
    "The group of notifications supporting
     the Notifications generated for
     VPLS Services"
 ::= { vplsGroups 3 }

END

```

6.2 VPI S-1 DP-DRAFT-01-MTB Object definitions

This MIB module makes references to the following documents. [\[RFC2578\]](#), [\[RFC2579\]](#), [\[RFC2580\]](#), [\[RFC2571\]](#), [\[RFC3411\]](#), [\[RFC2863\]](#), [\[RFC4001\]](#), [\[RFC4265\]](#) and [\[RFC3813\]](#).

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vplsConfigIndex, vplsPwBindIndex
FROM VPLS-GENERIC-DRAFT-01-MIB

;

vplsLdpDraft01MIB MODULE-IDENTITY
LAST-UPDATED "200608301200Z" -- 20 August 2006 12:00:00 GMT
ORGANIZATION "Layer 2 Virtual Private Networks (L2VPN)
Working Group"

CONTACT-INFO

"

Thomas D. Nadeau
Email: tnadeau@cisco.com

The L2VPN Working Group (email distribution l2vpn@ietf.org,
<http://www.ietf.org/html.charters/l2vpn-charter.html>)

"

DESCRIPTION

"Copyright (C) The Internet Society (2007). The initial
version of this MIB module was published in RFC XXXX.

-- RFC Editor: Please replace XXXX with RFC number & remove
-- this note.

For full legal notices see the RFC itself or see:
<http://www.ietf.org/copyrights/ianamib.html>

This MIB module contains managed object definitions for
LDP signalled Virtual Private LAN Services as in
[L2VPN-VPLS-LDP]

This MIB module enables the use of any underlying Pseudo Wire
network. "

-- Revision history.

REVISION

"200608301200Z" -- 30 Aug 2006 12:00:00 GMT

DESCRIPTION "Initial version published as part of RFC YYYY."

-- RFC Editor: please replace YYYY with IANA assigned value, and
-- delete this note.

::= { transmission XXXX }

-- RFC Editor: please replace XXXX with IANA assigned value, and
-- delete this note.

-- Top-level components of this MIB.

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```

-- Tables, Scalars
vplsLdpObjects      OBJECT IDENTIFIER
                      ::= { vplsLdpDraft01MIB 1 }
-- Conformance
vplsLdpConformance OBJECT IDENTIFIER
                      ::= { vplsLdpDraft01MIB 2 }

vplsLdpConfigTable OBJECT-TYPE
  SYNTAX          SEQUENCE OF VplsLdpConfigEntry
  MAX-ACCESS     not-accessible
  STATUS         current
  DESCRIPTION
    "This table specifies information for configuring
     and monitoring LDP specific parameters for
     Virtual Private Lan Services(VPLS)."
  ::= { vplsLdpObjects 1 }

vplsLdpConfigEntry OBJECT-TYPE
  SYNTAX          VplsLdpConfigEntry
  MAX-ACCESS     not-accessible
  STATUS         current
  DESCRIPTION
    "A row in this table represents LDP specific information
     for Virtual Private Lan Service(VPLS) in a packet network.
     It is indexed by vplsConfigIndex, which uniquely
     identifies a single VPLS.

    A row is automatically created when a VPLS service is
    configured using LDP signalling.

    None of the read-create objects values can be
    changed when vplsRowStatus is in the active(1)
    state. Changes are allowed when the vplsRowStatus
    is in notInService(2) or notReady(3) states only.
    If the operator need to change one of the values
    for an active row the vplsConfigRowStatus should be
    first changed to notInService(2), the objects may
    be changed now, and later to active(1) in order to
    re-initiate the signaling process with the new
    values in effect.

    "
INDEX           { vplsConfigIndex }
 ::= { vplsLdpConfigTable 1 }

VplsLdpConfigEntry ::=
SEQUENCE {
  vplsLdpConfigMacAddrWithdraw          TruthValue
}

```

}

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```

vplsLdpConfigMacAddrWithdraw OBJECT-TYPE
    SYNTAX          TruthValue
    MAX-ACCESS     read-create
    STATUS         current
    DESCRIPTION
        "This object specifies if MAC address withdrawal
         is enabled in this service. If this object is true then
         Mac address withdrawl Learning is enabled. If false,
         then Mac Learning is disabled."
    DEFVAL          { true }
    ::= { vplsLdpConfigEntry 1 }

-- VPLS LDP PW Binding Table

vplsLdpPwBindTable OBJECT-TYPE
    SYNTAX          SEQUENCE OF VplsLdpPwBindEntry
    MAX-ACCESS     not-accessible
    STATUS         current
    DESCRIPTION
        "This table provides LDP specific information for
         an association between a VPLS service and the
         corresponding Pseudo Wires. A service can have more
         than one Pseudo Wire association. Pseudo Wires are
         defined in the pwTable."
    ::= { vplsLdpObjects 2 }

vplsLdpPwBindEntry OBJECT-TYPE
    SYNTAX          VplsLdpPwBindEntry
    MAX-ACCESS     not-accessible
    STATUS         current
    DESCRIPTION
        "Each row represents an association between a
         VPLS instance and one or more Pseudo Wires
         defined in the pwTable. Each index is unique
         in describing an entry in this table. However
         both indexes are required to define the one
         to many association of service to pseudowire.

        An entry in this table is instantiated only when
        LDP signalling is used to configure VPLS service.

        Each entry in this table provides LDP specific
        information for the VPLS represented by
        vplsConfigIndex."
    INDEX  { vplsConfigIndex, vplsPwBindIndex }
    ::= { vplsLdpPwBindTable 1 }

```

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```
VplsLdpPwBindEntry ::=  
SEQUENCE {  
    vplsLdpPwBindMacAddressLimit      Unsigned32  
}  
  
vplsLdpPwBindMacAddressLimit OBJECT-TYPE  
    SYNTAX          Unsigned32 (0.. 4294967295)  
    MAX-ACCESS     read-create  
    STATUS         current  
    DESCRIPTION  
        "The value of this object specifies the maximum number  
        of learned and static entries allowed in the  
        Forwarding database for this PW Binding. The value 0  
        means there is no limit for this PW Binding."  
    DEFVAL          { 0 }  
 ::= { vplsLdpPwBindEntry 1 }  
  
-- Compliance requirement for read-only implementations.  
  
vplsLdpCompliances  
OBJECT IDENTIFIER ::= { vplsLdpConformance 1 }  
  
vplsLdpModuleFullCompliance MODULE-COMPLIANCE  
    STATUS current  
    DESCRIPTION  
        "Compliance requirement for implementations that  
        provide full support for VPLS-LDP-DRAFT-01-MIB.  
        Such devices can then be monitored and configured using  
        this MIB module."  
  
MODULE -- this module  
  
    MANDATORY-GROUPS {  
        vplsLdpGroup  
    }  
 ::= { vplsLdpCompliances 1 }  
  
vplsLdpModuleReadOnlyCompliance MODULE-COMPLIANCE  
    STATUS current  
    DESCRIPTION  
        "Compliance requirement for implementations that only  
        provide read-only support for VPLS-LDP-DRAFT-01-MIB.  
        Such devices can then be monitored but cannot be  
        configured using this MIB modules."  
  
MODULE -- this module
```

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```

MANDATORY-GROUPS {
    vplsLdpGroup
}

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

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

 ::= { vplsLdpCompliances 2 }

-- Units of conformance.

vplsLdpGroups
OBJECT IDENTIFIER ::= { vplsLdpConformance 2 }

vplsLdpGroup OBJECT-GROUP
OBJECTS {
    vplsLdpConfigMacAddrWithdraw,
    vplsLdpPwBindMacAddressLimit
}
STATUS         current
DESCRIPTION
    "The group of objects supporting
        management of L2VPN VPLS services using LDP."
 ::= { vplsLdpGroups 1 }

END

```

6.3 VPLS-BGP-DRAFT-01-MIB Object definitions

```

VPLS-BGP-DRAFT-01-MIB DEFINITIONS ::= BEGIN

IMPORTS
MODULE-IDENTITY, OBJECT-TYPE,
Unsigned32, transmission
    FROM SNMPv2-SMI                      -- RFC2578

MODULE-COMPLIANCE, OBJECT-GROUP
    FROM SNMPv2-CONF                      -- RFC2580

RowStatus, StorageType, TEXTUAL-CONVENTION

```

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FROM SNMPv2-TC -- [RFC2579](#)

SnmpAdminString
FROM SNMP-FRAMEWORK-MIB -- [RFC3411](#)

vplsConfigIndex, vplsPwBindIndex
FROM VPLS-GENERIC-DRAFT-01-MIB

;

vplsBgpDraft01MIB MODULE-IDENTITY
LAST-UPDATED "200612061200Z" -- 06 Dec 2006 12:00:00 GMT
ORGANIZATION "Layer 2 Virtual Private Networks (L2VPN)
Working Group"
CONTACT-INFO
"
V. J. Shah
Email: vshah@juniper.net

The L2VPN Working Group (email distribution l2vpn@ietf.org,
<http://www.ietf.org/html.charters/l2vpn-charter.html>)
"

DESCRIPTION
"Copyright (C) The Internet Society (2007). The initial
version of this MIB module was published in RFC XXXX.
-- RFC Editor: Please replace XXXX with RFC number & remove
-- this note.

For full legal notices see the RFC itself or see:
<http://www.ietf.org/copyrights/ianamib.html>

This MIB module contains managed object definitions for
BGP signalled Virtual Private LAN Services as in
[L2VPN-VPLS-BGP]

This MIB module enables the use of any underlying Pseudo Wire
network. "

-- Revision history.

REVISION
"200612061200Z" -- 06 Dec 2006 12:00:00 GMT
DESCRIPTION "Initial version published as part of RFC YYYY."
-- RFC Editor: please replace YYYY with IANA assigned value, and
-- delete this note.
 := { transmission XXXX }
-- RFC Editor: please replace XXXX with IANA assigne value, and
-- delete this note.

-- VPLS BGP specific Textual Conventions.

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```
VplsBgpRouteDistinguisher ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Syntax for a route distinguisher. For a complete
         definition of a route distinguisher, see [RFC4364].
         For more details on use of a route distinguisher
         for a VPLS service, see [L2VPN-VPLS-BGP]"
    REFERENCE
        "[RFC4364]"
    SYNTAX OCTET STRING(SIZE (0..256))

VplsBgpRouteTarget ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Syntax for a route target. For a complete
         definition of a route target, see [RFC4364]."
    REFERENCE
        "[RFC4364]"
    SYNTAX OCTET STRING(SIZE (0..256))

-- Top-level components of this MIB.

-- Tables, Scalars
vplsBgpObjects      OBJECT IDENTIFIER
                    ::= { vplsBgpDraft01MIB 1 }
-- Conformance
vplsBgpConformance   OBJECT IDENTIFIER
                     ::= { vplsBgpDraft01MIB 2 }

-- Vpls Bgp Config Table

vplsBgpConfigTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF VplsBgpConfigEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table specifies information for configuring
         and monitoring BGP specific parameters for
         Virtual Private Lan Services(VPLS)."
    ::= { vplsBgpObjects 1 }

vplsBgpConfigEntry OBJECT-TYPE
    SYNTAX      VplsBgpConfigEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A row in this table represents BGP specific information"
```

for Virtual Private Lan Service(VPLS) in a packet network.

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It is indexed by vplsConfigIndex, which uniquely identifies a single instance of a VPLS service.

A row is automatically created when a VPLS service is configured using BGP signalling.

None of the read-create objects values can be changed when vplsRowStatus is in the active(1) state. Changes are allowed when the vplsRowStatus is in notInService(2) or notReady(3) states only. If the operator need to change one of the values for an active row the vplsConfigRowStatus should be first changed to notInService(2), the objects may be changed now, and later to active(1) in order to re-initiate the signaling process with the new values in effect.

"

```
INDEX          { vplsConfigIndex }
 ::= { vplsBgpConfigTable 1 }
```

```
VplsBgpConfigEntry ::=

SEQUENCE {
    vplsBgpConfigRouteDistinguisher  VplsBgpRouteDistinguisher,
    vplsBgpConfigRouteTarget        VplsBgpRouteTarget,
    vplsBgpConfigVERangeSize       Unsigned32
}
```

```
vplsBgpConfigRouteDistinguisher OBJECT-TYPE
    SYNTAX      VplsBgpRouteDistinguisher
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The route distinguisher for this VPLS. See [RFC4364]
         for a complete definition of a route distinguisher.
         For more details on use of a route distinguisher
         for a VPLS service, see [L2VPN-VPLS-BGP]"
    DEFVAL { "" }
 ::= { vplsBgpConfigEntry 1 }
```

```
vplsBgpConfigRouteTarget OBJECT-TYPE
    SYNTAX      VplsBgpRouteTarget
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The route target associated with the VPLS service.
         For more details on use of route targets
         for a VPLS service, see [L2VPN-VPLS-BGP]"
```

DEFVAL { "" }

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```

 ::= { vplsBgpConfigEntry 2 }

vplsBgpConfigVERangeSize OBJECT-TYPE
    SYNTAX      Unsigned32 (0..65535)
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "Specifies the size of the range of VE ids in this
         VPLS service. This number controls the size of the
         label block advertised for this VE by the PE.
         A value of 0 indicates that the range is not
         configured and the PE derives the range value
         from received advertisements from other PEs."
    DEFVAL      { 0 }
    ::= { vplsBgpConfigEntry 3 }

-- Vpls Edge Device (VE) Identifier Table

vplsBgpVETable OBJECT-TYPE
    SYNTAX      SEQUENCE OF VplsBgpVEEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table associates VPLS Edge devices to a VPLS service"
    ::= { vplsBgpObjects 3 }

vplsBgpVEEntry OBJECT-TYPE
    SYNTAX      VplsBgpVEEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An entry in this table is created for each VE Id
         configured on a PE for a particular VPLS service
         instance."
    INDEX { vplsConfigIndex, vplsBgpVEId }
    ::= { vplsBgpVETable 1 }

VplsBgpVEEntry ::= SEQUENCE {
    vplsBgpVEId          Unsigned32,
    vplsBgpVName          SnmpAdminString,
    vplsBgpVEPreference   Unsigned32,
    vplsBgpVERowStatus    RowStatus,
    vplsBgpVESTorageType StorageType
}

vplsBgpVEId OBJECT-TYPE
    SYNTAX      Unsigned32 (1..65535)

```

MAX-ACCESS not-accessible

```

STATUS      current
DESCRIPTION
  "A secondary index identifying a VE within an
  instance of a VPLS service."
 ::= { vplsBgpVEEntry 1 }

vplsBgpVEName OBJECT-TYPE
  SYNTAX      SnmpAdminString
  MAX-ACCESS  read-create
  STATUS      current
  DESCRIPTION
    "Descriptive name for the site or u-PE associated with
     this VE Id."
  DEFVAL { "" }
 ::= { vplsBgpVEEntry 2 }

vplsBgpVEPreference OBJECT-TYPE
  SYNTAX      Unsigned32 (0..65535)
  MAX-ACCESS  read-create
  STATUS      current
  DESCRIPTION
    "Specifies the preference of the VE Id on this PE
     if the site is multi-homed and VE Id is re-used."
  DEFVAL { 0 }
 ::= { vplsBgpVEEntry 3 }

vplsBgpVERowStatus OBJECT-TYPE
  SYNTAX      RowStatus
  MAX-ACCESS  read-create
  STATUS      current
  DESCRIPTION
    "This variable is used to create, modify, and/or
     delete a row in this table. When a row in this
     table is in active(1) state, no objects in that row
     can be modified except vplsBgpSiteRowStatus."
 ::= { vplsBgpVEEntry 5 }

vplsBgpVESTorageType OBJECT-TYPE
  SYNTAX      StorageType
  MAX-ACCESS  read-create
  STATUS      current
  DESCRIPTION
    "This variable indicates the storage type for this row."
  DEFVAL { volatile }
 ::= { vplsBgpVEEntry 6 }

-- VPLS BGP PW Binding Table

```

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```

vplsBgpPwBindTable OBJECT-TYPE
  SYNTAX          SEQUENCE OF VplsBgpPwBindEntry
  MAX-ACCESS     not-accessible
  STATUS         current
  DESCRIPTION
    "This table provides BGP specific information for
     an association between a VPLS service and the
     corresponding Pseudo Wires. A service can have more
     than one Pseudo Wire association. Pseudo Wires are
     defined in the pwTable."
 ::= { vplsBgpObjects 4 }

vplsBgpPwBindEntry OBJECT-TYPE
  SYNTAX          VplsBgpPwBindEntry
  MAX-ACCESS     not-accessible
  STATUS         current
  DESCRIPTION
    "Each row represents an association between a
     VPLS instance and one or more Pseudo Wires
     defined in the pwTable. Each index is unique
     in describing an entry in this table. However
     both indexes are required to define the one
     to many association of service to pseudowire.

    An entry in this table is instantiated only when
    BGP signalling is used to configure VPLS service.

    Each entry in this table provides BGP specific
    information for the VPLS represented by
    vplsConfigIndex."
INDEX { vplsConfigIndex, vplsPwBindIndex }
 ::= { vplsBgpPwBindTable 1 }

VplsBgpPwBindEntry :=
  SEQUENCE {
    vplsBgpPwBindLocalVEId      Unsigned32,
    vplsBgpPwBindRemoteVEId     Unsigned32
  }

vplsBgpPwBindLocalVEId   OBJECT-TYPE
  SYNTAX          Unsigned32 (1..65535)
  MAX-ACCESS     read-only
  STATUS         current
  DESCRIPTION
    "Identifies the local VE that this Pseudo Wire
     is associated with."
 ::= { vplsBgpPwBindEntry 1 }

```

vplsBgpPwBindRemoteVEId OBJECT-TYPE

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```
SYNTAX          Unsigned32 (1..65535)
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
    "Identifies the remote VE that this Pseudo Wire
     is associated with."
 ::= { vplsBgpPwBindEntry 2 }

-- Compliance requirement for read-only implementations.

vplsBgpCompliances
OBJECT IDENTIFIER ::= { vplsBgpConformance 1 }

vplsBgpModuleFullCompliance MODULE-COMPLIANCE
STATUS current
DESCRIPTION
    "Compliance requirement for implementations that
     provide full support for VPLS-BGP-DRAFT-01-MIB.
     Such devices can then be monitored and configured using
     this MIB module."

MODULE -- this module

MANDATORY-GROUPS {
    vplsBgpConfigGroup,
    vplsBgpVEGroup,
    vplsBgpPwBindGroup
}
 ::= { vplsBgpCompliances 1 }

vplsBgpModuleReadOnlyCompliance MODULE-COMPLIANCE
STATUS current
DESCRIPTION
    "Compliance requirement for implementations that only
     provide read-only support for VPLS-BGP-DRAFT-01-MIB.
     Such devices can then be monitored but cannot be
     configured using this MIB modules."

MODULE -- this module

MANDATORY-GROUPS {
    vplsBgpConfigGroup,
    vplsBgpVEGroup,
    vplsBgpPwBindGroup
}
OBJECT          vplsBgpConfigRouteDistinguisher
```

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

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

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

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

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

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

::= { vplsBgpCompliances 2 }

-- Units of conformance.

vplsBgpGroups
OBJECT IDENTIFIER ::= { vplsBgpConformance 2 }

vplsBgpConfigGroup OBJECT-GROUP
OBJECTS {
    vplsBgpConfigRouteDistinguisher,
    vplsBgpConfigRouteTarget,
    vplsBgpConfigVERangeSize
}
STATUS        current
DESCRIPTION
    "The group of objects supporting configuration
     of L2VPN VPLS services using BGP"
 ::= { vplsBgpGroups 1 }
```

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```

vplsBgpVEGroup OBJECT-GROUP
  OBJECTS {
    vplsBgpVName,
    vplsBgpVEPreference,
    vplsBgpVERowStatus,
    vplsBgpVESTorageType
  }
  STATUS      current
  DESCRIPTION
    "The group of objects supporting management of VPLS
     Edge devices for L2VPN VPLS services using BGP"
 ::= { vplsBgpGroups 2 }

vplsBgpPwBindGroup OBJECT-GROUP
  OBJECTS {
    vplsBgpPwBindLocalVEId,
    vplsBgpPwBindRemoteVEId
  }
  STATUS      current
  DESCRIPTION
    "The group of objects supporting management of
     Pseudo Wires for L2VPN VPLS services using BGP"
 ::= { vplsBgpGroups 3 }

END

```

[7. Security Considerations](#)

It is clear that the MIB modules described in this document in association with the PW-STD-MIB [PW-STD-MIB] are potentially useful for monitoring of GMPLS LSRs. These MIB modules can also be used for configuration of certain objects, and anything that can be configured can be incorrectly configured, with potentially disastrous results.

There are a number of management objects defined in these MIB modules 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:

[8. IANA Considerations](#)

```
-- (Note to RFC-Editor:)
-- We request that you assign contiguous RFC numbers to the
-- IANA is requested to root MIB objects in the MIB module
```

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-- contained in this document under the transmission subtree.

--

9. References

9.1 Normative References

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9.2 Informative References

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10. Acknowledgement

We wish to thank Marcelo Mourier and Reva Bailey for their valuable feedback. Some portion of the work has been referenced from their original Timetra Enterprise MIB work.

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