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Thomas D. Nadeau (Ed.)
A S Kiran Koushik (Ed.)
Cisco Systems, Inc.

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 Pswudo 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 l2vpf@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

L2 VPN Working Group

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[draft-nadeau-l2vpn-vpls-mib-03](#) L2-VPN-MIB

Dec 22, 2006

[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

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.

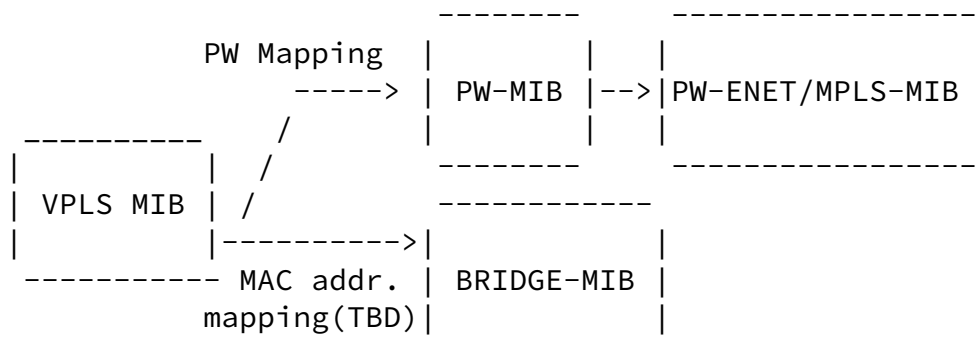
The first type is the VPLS-GENERIC-DRAFT-01-MIB module, which configures general parameters of the VPLS service that are common to all types of emulated services.

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.

- 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 then 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

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

```

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

SnmAdminString
    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 ::=

```
SEQUENCE {
  vplsConfigIndex          Unsigned32,
  vplsConfigName           SnmpAdminString,
  vplsConfigDescr          SnmpAdminString,
  vplsConfigAdminStatus    INTEGER,
  vplsConfigMacLearning    TruthValue,
  vplsConfigDiscardUnknownDest TruthValue,
  vplsConfigMacAging        TruthValue,
  vplsConfigFwdFullHighWatermark Unsigned32,
  vplsConfigFwdFullLowWatermark Unsigned32,
  vplsConfigRowStatus      RowStatus,
  vplsConfigMtu             Unsigned32,
  vplsConfigVpnId           VPNIIdOrZero,
  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 }
```

```
::= { 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

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

```

```

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
    pseudowire 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

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 }

```

vpplsStatusNotifEnable 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 vpplsStatusChanged
        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 }
    ::= { vpplsObjects 5 }

vpplsNotificationMaxRate 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 }
    ::= { vpplsObjects 6 }

```

-- VPLS Service Notifications

```

vpplsStatusChanged NOTIFICATION-TYPE
    OBJECTS {
        vpplsConfigVpnId,
        vpplsConfigAdminStatus,
        vpplsStatusOperStatus
    }
    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 }

```

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

```

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

```

```

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

```

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

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

IMPORTS

MODULE-IDENTITY, OBJECT-TYPE,
Unsigned32, transmission

FROM SNMPv2-SMI -- [RFC2578](#)

MODULE-COMPLIANCE, OBJECT-GROUP

FROM SNMPv2-CONF -- [RFC2580](#)

TruthValue

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

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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 assigne value, and
-- delete this note.

-- Top-level components of this MIB.

-- 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
}

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 }

```

```

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 assigned value, and
-- delete this note.

-- VPLS BGP specific Textual Conventions.
```

```
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."

```

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 { "" }

```

```

::= { 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,
    vplsBgpVEName    SnmpAdminString,
    vplsBgpVEPreference Unsigned32,
    vplsBgpVERowStatus RowStatus,
    vplsBgpVEStorageType StorageType
}

vplsBgpVEId OBJECT-TYPE
    SYNTAX          Unsigned32 (1..65535)
    MAX-ACCESS      not-accessible

```

```

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

```

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

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 }

```

```

vplsBgpVEGroup OBJECT-GROUP
    OBJECTS {
        vplsBgpVEName,
        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
```

```
-- contained in this document under the transmission subtree.
--
```

[9.](#) References

[9.1](#) Normative References

- | | |
|------------------|---|
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| [L2VPN-VPLS-LDP] | Virtual Private LAN Services over MPLS,
Marc Lasserre, Vach Kompella, |

- [L2VPN-VPLS-BGP] Virtual Private LAN Service (VPLS) Using BGP for Auto-discovery and Signaling,
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[RFC2578] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and S. Waldbusser, "Structure of Management Information Version 2 (SMIv2)", STD 58, [RFC 2578](#), April 1999.
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[9.2](#). Informative References

- [RFC3410] Case, J., Mundy, R., Partain, D., and B. Stewart, "Introduction and Applicability Statements for Internet-Standard Management Framework", [RFC 3410](#), December 2002.

[10](#). Acknowledgement

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[11](#). Authors' Addresses

Thomas D. Nadeau
Cisco Systems, Inc.
1414 Massachusetts Ave.
Boxborough, MA 01719
Email: tnadeau@cisco.com

Rohit Mediratta
Alcatel
Email: rohit.mediratta@alcatel.com

Praveen Muley
Alcatel
Email: praveen.muley@alcatel.com

Reva Bailey
Alcatel
Email: reva.bailey@alcatel.com

VJ Shah
Juniper Networks
Email: vshah@juniper.net

Li Wentao
ZTE Inc.
CHINA
Email: li.wentao@zte.com.cn

Kong Yong
ZTE Inc.
CHINA
Email: kong.yong@zte.com.cn

Luo Jian
ZTE Inc.
CHINA
Email: luo.jian@zte.com.cn

Feng Jun
ZTE Inc.
CHINA
Email: Feng.jun99@zte.com.cn

Takeshi Usui
KDDI Corporation
Japan
Email: ta-usui@kddi.com

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