

Network Working Group
Internet Draft
Expires: August 2002

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February 2002

Definitions for Textual Conventions and OBJECT-IDENTITIES
for Pseudo-Wires Management

[draft-nadeau-pw-tc-mib-02.txt](#)

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[1.0](#) Abstract

This memo describes Textual Conventions and OBJECT-IDENTITIES used for managing Pseudo-Wire services.

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[2.0](#) 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 Textual Conventions used in IETF PW and PW-related MIBs.

Comments should be made directly to the MPLS mailing list at pwe3@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 [RFC-2119](#) [[BCP14](#)].

For an introduction to the concepts of Pseudo-Wires, see [[PWREQ](#)] and [[PWFRM](#)].

[3.0](#) Terminology

This document uses terminology from the document describing the Pseudo-Wires Requirements [[PWE3REQ](#)].

[4.0](#) The SNMP Management Framework

The SNMP Management Framework presently consists of five major components:

- An overall architecture, described in [RFC 2271](#) [[SNMPArch](#)].
- Mechanisms for describing and naming objects and events for the purpose of management. The first version of this Structure of

Management Information (SMI) is called SMIV1 and described in [RFC 1155](#) [SMIV1], [RFC 1212](#) [SNMPv1MIBDef] and [RFC 1215](#) [SNMPv1Traps]. The second version, called SMIV2, is described in [RFC 1902](#) [SMIV2], [RFC 1903](#) [SNMPv2TC] and [RFC 1904](#) [SNMPv2Conf].

- Message protocols for transferring management information. The first version of the SNMP message protocol is called SNMPv1 and described in [RFC 1157](#) [SNMPv1]. A second version of the SNMP message protocol, which is not an Internet standards track protocol, is called SNMPv2c and described in [RFC 1901](#) [SNMPv2c] and [RFC 1906](#) [SNMPv2TM]. The third version of the message protocol is called SNMPv3 and described in [RFC 1906](#) [SNMPv2TM], [RFC 2272](#) [SNMPv3MP] and [RFC 2574](#) [SNMPv3USM].

- Protocol operations for accessing management information. The first set of protocol operations and associated PDU formats is described in [RFC 1157](#) [SNMPv1]. A second set of protocol operations and associated PDU formats is described in [RFC 1905](#) [SNMPv2P0].
- A set of fundamental applications described in [RFC 2273](#) [SNMPv3App] and the view-based access control mechanism described in [RFC 2575](#) [SNMPv3VACM].

A more detailed introduction to the current SNMP Management Framework can be found in [RFC 2570](#) [[RFC2570](#)].

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

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

[5.0](#) PW-TC MIB Definitions

PW-TC-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-IDENTITY, Unsigned32, Integer32, transmission
FROM SNMPv2-SMI

TEXTUAL-CONVENTION
FROM SNMPv2-TC;

pwTCMIB MODULE-IDENTITY

LAST-UPDATED "200202251200Z" -- 25 February 2002 12:00:00 GMT
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DESCRIPTION

"This MIB Module provides Textual Conventions
and OBJECT-IDENTITY Objects to be used PW services."

-- Revision history.

REVISION "200201301200Z" -- 30 January 2002 12:00:00 GMT
DESCRIPTION "Adding PwVcVlanCfg, PwAddressType and
PwOperStatus."

REVISION "200112201200Z" -- 20 Dec 2001 12:00:00 GMT
DESCRIPTION "Remove PwVcInstance"

REVISION "200107121200Z" -- 12 July 2001 12:00:00 GMT
DESCRIPTION "Initial version."

::= { pwMIB 1 } -- pwMIB To Be Assigned by IANA

pwMIB OBJECT IDENTIFIER

::= { transmission 7777 } -- To be assigned by IANA ??

-- Textual Conventions defined below are organized alphabetically

PwGroupID ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"An administrative identification mechanism for grouping a

set of service-specific pseudo-wire services. May only
have local significance."

SYNTAX Unsigned32

PwVcIDType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Virtual Circuit Identifier. Uniquely identifies a VC locally. Also uniquely identifies a VC at its end points."

SYNTAX Unsigned32

PwVcIndexType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Virtual Circuit Index. Locally unique index for indexing one of several MIB tables associated with a particular VC."

SYNTAX Unsigned32

PwVcVlanCfg ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"VLAN configuration for Ethernet PW.

Values between 0 to 4095 indicate the actual VLAN field value.

A value of 4096 indicates that the object refer to untagged frames, i.e. frames without 802.1Q field.

A value of 4097 indicates that the object is not relevant."

SYNTAX Integer32 (0..4097)

PwOperStatus ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Indicate the operational status of the PW VC.

- up: Ready to pass packets.
- down: If PW signaling has not yet finished, or indications available at the service level indicate that the VC is not passing packets.
- testing: If AdminStatus at the VC level is set to test.
- dormant: The VC is not available because of the required resources are occupied VC with higher priority VCs .
- notPresent: Some component is missing to accomplish the set up of the VC.
- lowerLayerDown: The underlying PSN or outer tunnel is not in OperStatus 'up'.

"

SYNTAX INTEGER {

```
    up(1),
    down(2),
    testing(3),
    unknown(4),
    dormant(5),
    notPresent(6),
    lowerLayerDown(7)
}
END
```

6.0 Security Considerations

This memo defines textual conventions and object identities for use in MPLS MIB modules. Security issues for these MIB modules are addressed in the memos defining those modules.

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[8.0](#) Author's Addresses

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Acknowledgement

Funding for the RFC Editor function is currently provided by the Internet Society.