

Network Working Group
Internet Draft
Expires: Jan 2002

Thomas D. Nadeau
Cisco Systems, Inc.

Dave Danenberg
Litchfield Communications, Inc.

David Zelig
Corrigent Systems

Andrew G. Malis
Vivace Networks, Inc.

July 2001

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

[draft-nadeau-pw-tc-mib-00.txt](#)

Status of this Memo

This document is an Internet-Draft and is in full conformance with all provisions of [Section 10 of RFC2026](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF), its areas, and its working groups. Note that other groups may also distribute working documents as Internet-Drafts.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

The list of current Internet-Drafts can be accessed at <http://www.ietf.org/ietf/1id-abstracts.txt>

The list of Internet-Draft Shadow Directories can be accessed at <http://www.ietf.org/shadow.html>.

[1.0](#) Abstract

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

Table of Contents

1.0 Abstract.....	1
2.0 Introduction.....	2

3.0	Terminology.....	2
4.0	The SNMP Management Framework.....	2
5.0	Definitions.....	3
6.0	Security Considerations.....	4

7.0	References.....	4
8.0	Author's Addresses.....	6
9.0	Full Copyright Statement.....	7

[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](#) Definitions

PW-TC-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-IDENTITY, Unsigned32, transmission
FROM SNMPv2-SMI

TEXTUAL-CONVENTION
FROM SNMPv2-TC;

pwTCMIB MODULE-IDENTITY

LAST-UPDATED "200107121200Z" -- 12 July 2001 12:00:00 GMT
ORGANIZATION "Multiprotocol Label Switching (MPLS) Working Group,
Pseudo Wire Edge to Edge Emulation (PWE3) Working
Group"

CONTACT-INFO

"MPLS Working Group Mailing List: mpls@uu.net
PWE3 Working Group Mailing List: pwe3@ietf.org"

DESCRIPTION

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

-- Revision history.

Nadeau et al.

Expires January 2002

[Page 3]

Internet Draft

PWE3 TC MIB

July 12, 2001

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

PwVcID ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

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

SYNTAX Unsigned32

PwVcIndex ::= 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

PwVcInstance ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Virtual Circuit Instance. Use in conjunction with PwVcIndex when it is required to have more than one instance of a particular VC. The primary application for instances is APS where there are primary and backup VCs."

SYNTAX Unsigned32

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.

Nadeau et al.

Expires January 2002

[Page 4]

Internet Draft

PWE3 TC MIB

July 12, 2001

7.0 References

- [PWREQ] Xiao, X., McPherson, D., et al, "Requirements for Pseudo Wire Emulation Edge-to-Edge (PWE3)", <[draft-ietf-pwe3-requirements-00.txt](#)>, May 2001.

- [PWFRM] Pate et al, "Framework for Pseudo Wire Emulation Edge-to-Edge (PWE3)", <[draft-pate-pwe3-framework-01.txt](#)>, July 2001.
- [RFC2571] Harrington, D., Presuhn, R., and B. Wijnen, "An Architecture for Describing SNMP Management Frameworks", [RFC 2571](#), April 1999.
- [RFC1155] Rose, M., and K. McCloghrie, "Structure and Identification of Management Information for TCP/IP-based Internets", STD 16, [RFC 1155](#), May 1990.
- [RFC1212] Rose, M., and K. McCloghrie, "Concise MIB Definitions", STD 16, [RFC 1212](#), March 1991.
- [RFC1215] M. Rose, "A Convention for Defining Traps for use with the SNMP", [RFC 1215](#), March 1991.
- [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.
- [RFC2579] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and S. Waldbusser, "Textual Conventions for SMIv2", STD 58, [RFC 2579](#), April 1999.
- [RFC2580] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and S. Waldbusser, "Conformance Statements for SMIv2", STD 58, [RFC 2580](#), April 1999.
- [RFC1157] Case, J., Fedor, M., Schoffstall, M., and J. Davin, "Simple Network Management Protocol", STD 15, [RFC 1157](#), May 1990.
- [RFC1901] Case, J., McCloghrie, K., Rose, M., and S. Waldbusser, "Introduction to Community-based SNMPv2", [RFC 1901](#), January 1996.
- [RFC1906] Case, J., McCloghrie, K., Rose, M., and S. Waldbusser, "Transport Mappings for Version 2 of the Simple Network Management Protocol (SNMPv2)", [RFC 1906](#), January 1996.

- [RFC2572] Case, J., Harrington D., Presuhn R., and B. Wijnen, "Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)", [RFC 2572](#), April 1999.
- [RFC2574] Blumenthal, U., and B. Wijnen, "User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)", [RFC 2574](#), April 1999.
- [RFC1905] Case, J., McCloghrie, K., Rose, M., and S. Waldbusser, "Protocol Operations for Version 2 of the Simple Network Management Protocol (SNMPv2)", [RFC 1905](#), January 1996.
- [RFC2573] Levi, D., Meyer, P., and B. Stewart, "SNMPv3 Applications", [RFC 2573](#), April 1999.
- [RFC2575] Wijnen, B., Presuhn, R., and K. McCloghrie, "View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)", [RFC 2575](#), April 1999.
- [RFC2570] Case, J., Mundy, R., Partain, D., and B. Stewart, "Introduction to Version 3 of the Internet-standard Network Management Framework", [RFC 2570](#), April 1999.
- [MPLSArch] Rosen, E., Viswanathan, A., and R. Callon, "Multiprotocol Label Switching Architecture", [RFC 3031](#), August 1999.
- [Assigned] Reynolds, J., and J. Postel, "Assigned Numbers", [RFC 1700](#), October 1994. See also: <http://www.isi.edu/in-notes/iana/assignments/smi-numbers>
- [IPSEC] Kent, S., and Atkinson, R., "Security Architecture for the Internet Protocol", [RFC 2401](#), November 1998.
- [IFMIB] McCloghrie, K., and F. Kastenholz, "The Interfaces Group MIB", [RFC 2863](#), June 2000.
- [ATOMMIBTC] Noto, et. al., "Definitions of Textual Conventions and OBJECT-IDENTITIES for ATM Management", [RFC 2514](#), Feb. 1999

[BCP14] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.

Nadeau et al.

Expires January 2002

[Page 6]

Internet Draft

PWE3 TC MIB

July 12, 2001

[8.0](#) Author's Addresses

Thomas D. Nadeau
Cisco Systems, Inc.
250 Apollo Drive
Chelmsford, MA 01824
Email: tnadeau@cisco.com

Dave Danenberg
Litchfield Communications, Inc.
76 Westbury Park Rd
Princeton Building East
Watertown, CT 06795
Email: dave_danenberg@litchfieldcomm.com

David Zelig
Corrigent Systems LTD.
126, Yigal Alon st.
Tel Aviv, ISRAEL
Phone: +972-3-6945273
Email: davidz@corrigent.com

Andrew G. Malis
Vivace Networks, Inc.
2730 Orchard Parkway
San Jose, CA 95134
Email: Andy.Malis@vivacenetworks.com

[9.0](#) Full Copyright Statement

"Copyright (C) The Internet Society (2001). All Rights Reserved. This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published

and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this paragraph are included on all such copies and derivative works. However, this document itself may not be modified in any way, such as by removing the copyright notice or references to the Internet Society or other Internet organizations, except as needed for the purpose of developing Internet standards in which case the procedures for copyrights defined in the Internet Standards process must be followed, or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by the Internet Society or its successors or assigns.

Nadeau et al.

Expires January 2002

[Page 7]

Internet Draft

PWE3 TC MIB

July 12, 2001

This document and the information contained herein is provided on an "AS IS" basis and THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Acknowledgement

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

