INTERNET-DRAFT
draft-ietf-ppvpn-tc-mib-02.txt
Expires: May 2003

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November 2002

Definition of Textual Conventions for Provider Provisioned Virtual Private Network (PPVPN) Management

Status of this Memo

Abstract

This document describes Textual Conventions used for managing PPVPNs.

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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 Textual Conventions used in IETF PPVPN and PPVPN-related MIBs.

1.1 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 [RFC2119].

2. The SNMP Management Framework

The SNMP Management Framework presently consists of five major components:

- An overall architecture, described in RFC 2571 [RFC2571].

- 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 STD 16, RFC 1155 [RFC1155], STD 16, RFC 1212 [RFC1212] and STD 16, RFC 1215 [RFC1215]. The second version, called SMIv2, is described in STD 58, RFC 2578 [RFC2578], STD 58, RFC 2579 [RFC2579] and STD 58, RFC 2580 [RFC2580].

- Message protocols for transferring management information. The first version of the SNMP message protocol is called SNMPv1 and described in STD 15, RFC 1157 [RFC1157]. A second version of the SNMP message protocol, which is not an Internet standards track protocol, is called SNMPv2c and described in RFC 1901 [RFC1901] and RFC 1906 [RFC1906]. The third version of the message protocol is called SNMPv3 and described in RFC 1906 [RFC1906], RFC 2572 [RFC2572] and RFC 2574 [RFC2574].

- Protocol operations for accessing management information. The first set of protocol operations and

associated PDU formats is described in STD 15, RFC

1157 [RFC1157]. A second set of protocol operations and associated PDU formats is described in RFC 1905 [RFC1905].

- A set of fundamental applications described in RFC 2573 [RFC2573] and the view-based access control mechanism described in RFC 2575 [RFC2575].

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.

3.0 PPVPN-TC MIB Definitions

```
PPVPN-TC-MIB DEFINITIONS ::= BEGIN

IMPORTS
   MODULE-IDENTITY, experimental
      FROM SNMPv2-SMI

    TEXTUAL-CONVENTION
      FROM SNMPv2-TC;

ppvpnTcMIB MODULE-IDENTITY
   LAST-UPDATED "200211031200Z"  -- 03 November 2002 12:00:00 GMT
   ORGANIZATION "Provider Provisioned Virtual Private
                 Networks Working Group."
   CONTACT-INFO
          "   Benson Schliesser
              bensons@savvis.net
```

```
              tnadeau@cisco.com
              Comments and discussion to ppvpn@ietf.org"

   DESCRIPTION
        "This MIB contains TCs for PPVPN."

  -- Revision history.
   LAST-UPDATED "200211031200Z"  -- 03 November 2002 12:00:00 GMT
   DESCRIPTION
      "Refreshed for IETF web page."
   ::= { experimental XXX } -- assigned by IANA

   REVISION "200102281200Z"  -- 28 February 2002 12:00:00 GMT
   DESCRIPTION
      "Initial draft version."
   ::= { experimental XXX } -- assigned by IANA

-- definition of textual conventions

VPNId ::= TEXTUAL-CONVENTION
    STATUS current
    DESCRIPTION
        "The purpose of a VPN-ID is to identify a VPN.
         The global VPN Identifier format is:
         3 octet VPN Authority, Organizationally Unique Identifier
         followed by
         4 octet VPN index identifying VPN according to OUI"
    REFERENCE
        "RFC 2685, Fox & Gleeson, 'Virtual Private
         Networks Identifier', September 1999."
    SYNTAX    OCTET STRING (SIZE (0..7))

END
```

4. Security Considerations

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

5. References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[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.

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