Definitions for Textual Conventions and OBJECT-IDENTITIES for Pseudo-Wires Management
draft-ietf-pwe3-pw-tc-mib-07.txt

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Abstract

This memo defines a Management Information Base (MIB) module which contains Textual Conventions to represent commonly used Pseudo Wire (PW) management information. The intent is that these TEXTUAL CONVENTIONS (TCs) will be imported and used in PW related MIB modules that would otherwise define their own representations.
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 for Pseudo Wire (PW) technology and PWE3 MIB modules.

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.

Comments should be made directly to the PWE3 mailing list at pwe3@ietf.org.

For an introduction to the concepts of Pseudo-Wires, see [PWREQ] and [RFC3985].

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 [RFC2119].

2 Terminology

This document uses terminology from the document describing the PW architecture [RFC3985].
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 Object Definition

PW-TC-STD-MIB DEFINITIONS ::= BEGIN

IMPORTS
   MODULE-IDENTITY, Unsigned32, transmission
   FROM SNMPv2-SMI               -- [RFC2578]

   TEXTUAL-CONVENTION
   FROM SNMPv2-TC;               -- [RFC2579]

pwTcStdMIB MODULE-IDENTITY
   LAST-UPDATED "200507121200Z" -- 12 July 2005 12:00:00 GMT
   ORGANIZATION "Pseudo Wire Edge to Edge Emulation (PWE3) Working Group"
   CONTACT-INFO
      " Thomas D. Nadeau
        Email: tnadeau@cisco.com
       
        David Zelig
        E-mail: davidz@corrigent.com

      The PWE3 Working Group (email distribution pwe3@ietf.org,
      http://www.ietf.org/html.charters/pwe3-charter.html)
      "

DESCRIPTION
   "Copyright (C) The Internet Society (2006). The initial version of this MIB module was published in RFC XXXX. For full legal notices see the RFC -- RFC Editor: Please replace XXXX with RFC number & remove this -- note."

   itself or see:
   http://www.ietf.org/copyrights/ianamib.html

This MIB module defines TEXTUAL-CONVENTIONs
for concepts used in Pseudo Wire Edge-to-Edge networks.

-- Revision history.

REVISION "200507121200Z" -- 12 July 2005 12:00:00 GMT
DESCRIPTION "Initial version published as part of RFC YYYY."
-- RFC Editor: please replace YYYY value, and
-- delete this note.
 ::= { transmission XXXX }
-- RFC Editor: please replace XXXX with IANA assigned value, and
-- delete this note.

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

PwIDType ::= TEXTUAL-CONVENTION
 STATUS current
DESCRIPTION
 "Pseudo-Wire Identifier. Used to identify the PW (together with some other fields) in the signaling session. Zero if the PW is set-up manually."
SYNTAX Unsigned32

PwIndexType ::= TEXTUAL-CONVENTION
 STATUS current
DESCRIPTION
 "Pseudo Wire Index. Locally unique index for indexing several MIB tables associated with a particular PW."
SYNTAX Unsigned32

PwVlanCfg ::= 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 Unsigned32 (0..4097)

PwOperStatusTC ::= TEXTUAL-CONVENTION
 STATUS current
DESCRIPTION

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"Indicates the operational status of the PW.

- up(1): Ready to pass packets.
- down(2): If PW signaling has not yet finished, or indications available at the service level indicate that the PW is not passing packets.
- testing(3): If AdminStatus at the PW level is set to test.
- dormant(4): The PW is not available because the required resources are occupied by higher priority PWs.
- notPresent(5): Some component is missing to accomplish the set up of the PW.
- lowerLayerDown(6): The underlying PSN or outer tunnel is not in OperStatus 'up' state.

SYNTAX INTEGER {
    up(1),
    down(2),
    testing(3),
    unknown(4),
    dormant(5),
    notPresent(6),
    lowerLayerDown(7)
}
illegalReceivedBit(4) indicates a C bit configuration with the peer which is not compatible with the PW type.

cwPresent(5) indicates that the CW is present for this PW: if signaling is used - C bit is set and agreed between the nodes, and for manual configured PW the local configuration require the use of the CW.

cwNotPresent(6) indicates that the CW is not present for this PW: if signaling is used - C bit is reset and agreed between the nodes, and for manual configured PW the local configuration requires that CW would not be used.

notYetKnown(7) indicates that a label mapping has not yet received from the peer.

SYNTAX    INTEGER {
    waitingForNextMsg (1),
    sentWrongBitErrorCode (2),
    rxWithdrawWithWrongBitErrorCode (3),
    illegalReceivedBit (4),
    cwPresent (5),
    cwNotPresent (6),
    notYetKnown (7)
}

PwCapabilities ::= TEXTUAL-CONVENTION
STATUS      current
DESCRIPTION
"Indicates the optional capabilities of the control protocol. A value of zero indicates the basic LDP PW signaling. Values may be added in the future based on new capabilities introduced in IETF documents."

SYNTAX    BITS {
    pwStatusIndication (0)
}

PwStatus ::= TEXTUAL-CONVENTION
STATUS      current
DESCRIPTION
"The status of the PW and the interfaces affecting this PW. If none of the bits are set, it indicates no faults are reported."

SYNTAX    BITS {
    pwNotForwarding (0),
    customerFacingPwRxFault (1),
    customerFacingPwTxFault (2),
    psnFacingPwRxFault (3),
psnFacingPwTxFault (4)
)

PwFragSize ::= TEXTUAL-CONVENTION
STATUS current
DESCRIPTION
"If set to value other than zero, it indicates desired
fragmentation to the value set. If set to zero,
fragmentation is not desired for PSN bound packets."
SYNTAX Unsigned32

PwFragStatus ::= TEXTUAL-CONVENTION
STATUS current
DESCRIPTION
"The status of the fragmentation process based on local
configuration and the peer capability.

noFrag(0) bit indicates that local configuration is for no
fragmentation.

cfgFragGreaterThanPsnMtu(1) bit indicates the local desire
to fragment, but the fragmentation size desired is greater
than the MTU available at the PSN between the nodes.
Fragmentation is not done in this case.

cfgFragButRemoteIncapable(2) bit indicates that the local
configuration indicates the desire for fragmentation but
the peer is not capable of fragmentation.

cfgFragFcsLengthMismatch(3) bit indicates that there is a
mismatch between the FCS size between the local
configuration and the peer configuration.

fragEnabled(4) bit indicates that both the local was
configured for fragmentation and the peer has the
capability to accept fragmented packets, and the FCS size is
equal in both peers."
SYNTAX BITS {
  noFrag (0),
  cfgFragGreaterThanPsnMtu (1),
  cfgFragButRemoteIncapable (2),
  remoteFragCapable (3),
  fragEnabled (4)
}
This module does not define any management objects. Instead, it defines a set of textual conventions that may be used by other PWE3 MIB modules to define management objects.

Meaningful security considerations can only be written in the MIB modules that define management objects. Therefore, this document has no impact on the security of the Internet.

6 IANA considerations

The MIB module in this document uses the following IANA-assigned OBJECT IDENTIFIER values recorded in the SMI Numbers registry:

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>OBJECT IDENTIFIER value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pwTcStdMIB</td>
<td>{ transmission XXXX }</td>
</tr>
</tbody>
</table>

Editor’s Note (to be removed prior to publication): the IANA is requested to assign a value for "XXXX" under the ‘transmission’ subtree and to record the assignment in the SMI Numbers registry. When the assignment has been made, the RFC Editor is asked to replace "XXXX" (here and in the MIB module) with the assigned value and to remove this note.

7 References

7.1 Normative References


7.2 Informative references


8 Author’s Addresses

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