

none  
Internet-Draft  
Expires: March 2, 2005

B. Wijnen  
Lucent Technologies  
september 2004

**Textual Conventions for Virtual Local Area Network Identifiers  
(VLAN-ID)  
draft-ietf-ops-vlanid-tc-mib-01.txt**

Status of this Memo

This document is an Internet-Draft and is subject to all provisions of [section 3 of RFC 3667](#). By submitting this Internet-Draft, each author represents that any applicable patent or other IPR claims of which he or she is aware have been or will be disclosed, and any of which he or she become aware will be disclosed, in accordance with [RFC 3668](#).

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>.

This Internet-Draft will expire on March 2, 2005.

Copyright Notice

Copyright (C) The Internet Society (2004).

Abstract

This memo defines textual conventions to represent the commonly used Virtual Local Area Network Identifier (VLAN-ID). The intent is that these textual conventions (TCs) will be imported and used in MIB modules that would otherwise define their own representations.



## 1. Introduction

Various Working Groups have defined standards-track MIB documents (for example [\[RFC2613\]](#), [\[RFC2674\]](#) and [\[RFC3318\]](#)), that contain objects and Textual Conventions to represent a Virtual Local Area Network Identifier (VLAN-ID) [\[IEEE.802-1Q.2003\]](#). New definitions are showing up in various Internet-Drafts (for example [\[I-D.ietf-ipcdn-qos-mib\]](#), [\[I-D.ietf-rmonmib-sspm-mib\]](#)). Unfortunately the result is a set of different definitions for the same piece of management information. This may lead to confusion and unnecessary complexity.

This document defines a set of textual conventions (TCs) that can and should be (re-)used in MIB modules, so that they all represent a VLAN-ID in the same way. In fact, PIB modules can and should also use these TCs when they need to represent a VLAN-ID.

## 2. 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](#) [\[RFC2580\]](#).

## 3. Definitions

VLAN-ID-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-IDENTITY, mib-2, Integer32 FROM SNMPv2-SMI  
TEXTUAL-CONVENTION FROM SNMPv2-TC;

vlanIdMIB MODULE-IDENTITY

LAST-UPDATED "200409270000Z" -- 27 September 2004  
ORGANIZATION "IETF Operations and Management Area"  
CONTACT-INFO "Bert Wijnen (Editor)  
Lucent Technologies  
Schagen 33



3461 GL Linschoten  
Netherlands

Phone: +31 348-407-775  
EMail: bwijnen@lucent.com

Send comments to <mibs@ops.ietf.org>.

"

DESCRIPTION "This MIB module provides commonly used textual  
conventions for VLAN Identifiers.

Copyright (C) The Internet Society (2004). This  
version of this MIB module is part of RFC XXXX,  
see the RFC itself for full legal notices.

"

-- RFC-Editor: assign XXXX above  
-- then remove this note

-- Revision History

REVISION "200409270000Z" -- 27 September 2004

DESCRIPTION "Initial version, published as RFC XXXX."

-- RFC-Editor: assign XXXX above,  
-- then remove this note

::= { mib-2 nnn } -- To be assigned by IANA

VlanIdentifier ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS current

DESCRIPTION "The VLAN ID that uniquely identifies a VLAN. It  
is the 12-bit VLAN ID used in the VLAN Tag header.  
The range is defined by the REFERENCED specification."  
"

REFERENCE "IEEE Std 802.1Q 2003 Edition, Virtual Bridged  
Local Area Networks."  
"

SYNTAX Integer32 (1..4094)

VlanIdentifierOrAny ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS current

DESCRIPTION "The VLAN ID that uniquely identifies a VLAN.

The special value of 4095 is used to indicate a  
wildcard, i.e. any value.

"

SYNTAX Integer32 (1..4094 | 4095)



```
VlanIdentifierOrNone ::= TEXTUAL-CONVENTION
    DISPLAY-HINT      "d"
    STATUS             current
    DESCRIPTION        "The VLAN ID that uniquely identifies a VLAN.

                        The special value of zero is used to indicate
                        that no VLAN ID is present or used.
                        "
    SYNTAX             Integer32 (0 | 1..4094)

VlanIdentifierOrAnyOrNone ::= TEXTUAL-CONVENTION
    DISPLAY-HINT      "d"
    STATUS             current
    DESCRIPTION        "The VLAN ID that uniquely identifies a VLAN.

                        The special value of zero is used to indicate
                        that no VLAN ID is present or used.

                        The special value of 4095 is used to indicate a
                        wildcard, i.e. any value.
                        "
    SYNTAX             Integer32 (0 | 1..4094 | 4095)

END
```

#### **4. Security Considerations**

The MIB module contained in this memo does not define any management objects. Instead, it defines a set of textual conventions which may be used by other MIB modules to define management objects.

Meaningful security considerations can only be written for MIB modules that define concrete management objects. This document has therefore no impact on the security of the Internet.

#### **5. IANA Considerations**

IANA is requested to assign an OID under mib-2 to the MIB module in section [Section 3](#).

#### **6. Acknowledgments**

This document was produced as a result of a review of the use of VLAN-ID in several MIB modules. Further investigation found that VLAN-ID objects were defined in a few other MIB modules. The editor would like to thank all who contributed to the discussion which resulted in this document. Specifically Les Bell, Andrew Smith, Mike





Heard, Randy Presuhn, Dan Romascanu, Eduardo Cardona, Tom Petch, Juergen Schoenwaelder, Richard Woundy, Tony Jeffree and William Murwin. We also received input and feedback from IEEE confirming that the values 0 and 4095 are not used for identifying a specific VLAN-ID and so can be used to represent none or a wildcard (see [Appendix A](#)).

## **[7.](#) References**

### **[7.1](#) Normative References**

- [IEEE.802-1Q.2003]  
Institute of Electrical and Electronics Engineers, "IEEE Std 802.1Q 2003 Edition, Virtual Bridged Local Area Networks", IEEE Standard 802.1D, 2003 Edition, May 2003.
- [RFC2578] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., McCloghrie, K., 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., McCloghrie, K., Rose, M. and S. Waldbusser, "Textual Conventions for SMIv2", STD 58, [RFC 2579](#), April 1999.
- [RFC2580] McCloghrie, K., Perkins, D. and J. Schoenwaelder, "Conformance Statements for SMIv2", STD 58, [RFC 2580](#), April 1999.

### **[7.2](#) Informative References**

- [I-D.ietf-ipcdn-qos-mib]  
Patrick, M. and W. Murwin, "Data Over Cable System Interface Specification Quality of Service Management Information Base (DOCSIS-QOS MIB)", [draft-ietf-ipcdn-qos-mib-10](#) (work in progress), September 2004.
- [I-D.ietf-rmonmib-sspm-mib]  
Kalbfleisch, C., Cole, R. and D. Romascanu, "Definition of Managed Objects for Synthetic Sources for Performance Monitoring Algorithms.", [draft-ietf-rmonmib-sspm-mib-12](#) (work in progress), June 2004.
- [RFC2613] Waterman, R., Lahaye, B., Romascanu, D. and S. Waldbusser, "Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0", [RFC 2613](#), June 1999.



- [RFC2674] Bell, L., Smith, A., Langille, P., Rijhsinghani, A. and K. McCloghrie, "Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering and Virtual LAN Extensions", [RFC 2674](#), August 1999.
- [RFC3318] Sahita, R., Hahn, S., Chan, K. and K. McCloghrie, "Framework Policy Information Base", [RFC 3318](#), March 2003.
- [RFC3410] Case, J., Mundy, R., Partain, D. and B. Stewart, "Introduction and Applicability Statements for Internet-Standard Management Framework", [RFC 3410](#), December 2002.

#### Author's Address

Bert Wijnen  
Lucent Technologies  
Schagen 33  
3461 GL Linschoten  
Netherlands

Phone: +31-348-407-775  
EMail: [bwijnen@lucent.com](mailto:bwijnen@lucent.com)

#### [Appendix A](#). Email from Tony Jeffrey from IEEE

-----Original Message-----

From: Tony Jeffree [<mailto:tony@jeffree.co.uk>]  
Sent: Friday, 6th of June 2003 17:16  
To: Wijnen, Bert (Bert) [<mailto:bwijnen@lucent.com>]  
Subject: RE: VLAN ID

Bert et al -

We have concluded that the use of 4095 as a wildcard is acceptable to 802.1, and we will make any necessary changes to 802.1Q in due course to relax the current stated restriction. However, we need to know whether that is all that needs to be done to 802.1Q - i.e., is there any need to change our definitions of the managed objects in the document (Clause 12) to reflect the interpretation of 4095 as a wildcard, or is this simply an issue for the SNMP machinery to handle?

Regards,  
Tony



## Intellectual Property Statement

The IETF takes no position regarding the validity or scope of any Intellectual Property Rights or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; nor does it represent that it has made any independent effort to identify any such rights. Information on the procedures with respect to rights in RFC documents can be found in [BCP 78](#) and [BCP 79](#).

Copies of IPR disclosures made to the IETF Secretariat and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of this specification can be obtained from the IETF on-line IPR repository at <http://www.ietf.org/ipr>.

The IETF invites any interested party to bring to its attention any copyrights, patents or patent applications, or other proprietary rights that may cover technology that may be required to implement this standard. Please address the information to the IETF at [ietf-ipr@ietf.org](mailto:ietf-ipr@ietf.org).

## Disclaimer of Validity

This document and the information contained herein are provided on an "AS IS" basis and THE CONTRIBUTOR, THE ORGANIZATION HE/SHE REPRESENTS OR IS SPONSORED BY (IF ANY), THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIM 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.

## Copyright Statement

Copyright (C) The Internet Society (2004). This document is subject to the rights, licenses and restrictions contained in [BCP 78](#), and except as set forth therein, the authors retain all their rights.

## Acknowledgment

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

