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Definitions of Managed Objects for BGP Origin Validation
draft-ymbk-bgp-origin-validation-mib-00

Abstract

This document extends the current Management Information Base (MIB) defined for BGP in [RFC 4273](#) to provide support for BGP Origin Validation. In particular, it describes manage objects used for managing BGP Origin validation state within BGP protocol.

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Internet-Draft MIB Extension for BGP Origin Validation

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[1.](#) Introduction

This document extends a portion of the BGP4 Management Information Base (MIB) for use with network management protocols in the Internet community. In particular, it describes managed objects used for managing BGP Origin validation within BGP protocol.

[1.1.](#) Requirements Language

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.](#) Overview

[3.](#) Definitions

BGP-ORIG-VAL-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-IDENTITY, OBJECT-TYPE, NOTIFICATION-TYPE, Integer32,
Unsigned32, mib-2
FROM SNMPv2-SMI

InetAddressType, InetAddress, InetAddressPrefixLength
FROM INET-ADDRESS-MIB

TEXTUAL-CONVENTION, DateAndTime, TruthValue
FROM SNMPv2-TC;

bgpOrigVal MODULE-IDENTITY
LAST-UPDATED "201106280000Z"

ORGANIZATION "IETF Secure Inter-Domain Routing Working Group
(SIDR)"

CONTACT-INFO "N/A"

DESCRIPTION "This MIB contains management objects to support
the Border Gateway Protocol's (BGP) Origin
Validation.

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(<http://trustee.ietf.org/license-info>)."

REVISION "201106280000Z"

DESCRIPTION "Initial version of BGP Origin Validation MIB."

::= { mib-2 XXX } -- XXX to be assigned by IANA

bgpValMIB	OBJECT IDENTIFIER ::= { bgpOrigVal 1 }
bgpValNotifications	OBJECT IDENTIFIER ::= { bgpValMIB 0 }
bgpValGen	OBJECT IDENTIFIER ::= { bgpValMIB 1 }
bgpValROA	OBJECT IDENTIFIER ::= { bgpValMIB 2 }
bgpValRPKI	OBJECT IDENTIFIER ::= { bgpValMIB 3 }
bgpValPFX	OBJECT IDENTIFIER ::= { bgpValMIB 4 }
bgpValGhost	OBJECT IDENTIFIER ::= { bgpValMIB 5 }

bgpValRepos OBJECT IDENTIFIER ::= { bgpValMIB 6 }

bgpValROATable OBJECT-TYPE
SYNTAX SEQUENCE OF BgpValROATableEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
 "This table lists the ROAs on this system."
::= { bgpValROA 1 }

bgpValROATableEntry OBJECT-TYPE
SYNTAX BgpValROATableEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
 "An entry in the bgpValROATable."
INDEX { bgpVRTasNum }
::= { bgpValROATable 1 }

BgpValROATableEntry ::= SEQUENCE {
 bgpVRTasNum Unsigned32,
 bgpVRTPrefixType InetAddressType,
 bgpVRTPrefix InetAddress,
 bgpVRTPrefixLength InetAddressPrefixLength,
 bgpVRTValid INTEGER

}

bgpVRTasNum OBJECT-TYPE
SYNTAX Unsigned32
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
 "This value represents the AS number for this row in the
 table."
::= { bgpValROATableEntry 1 }

bgpVRTPrefixType OBJECT-TYPE
SYNTAX InetAddressType
MAX-ACCESS read-create
STATUS current

```

DESCRIPTION
    "This is the address type of the prefix in this row."
    ::= { bgpValROATableEntry 2 }

bgpVRTPrefix OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "This is the prefix of the ROA indicated by this row."
        ::= { bgpValROATableEntry 3 }

bgpVRTPrefixLength OBJECT-TYPE
    SYNTAX      InetAddressPrefixLength
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "This is the length of the prefix for the ROA."
        ::= { bgpValROATableEntry 4 }

bgpVRTValid OBJECT-TYPE
    SYNTAX      INTEGER { unknown(1), valid(2), invalid(3) }
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "This is indicates if the state of the roa associated with
        this row."
    DEFVAL { unknown }
    ::= { bgpValROATableEntry 5 }

END

```

[4.](#) Contributors

[5.](#) Acknowledgements

[6.](#) IANA Considerations

The MIB module in this document will required an IANA assigned OBJECT IDENTIFIER within the SMI Numbers registry. For example, replacing XXX below:

Descriptor	OBJECT IDENTIFIER value
-----	-----
bgpOrigVal	{ mib-2 XXX }

[7.](#) Security Considerations

This extension to [\[RFC4273\]](#) does not change the underlying security issues inherent in the existing BGP and [\[RFC4273\]](#).

[8.](#) References

[8.1.](#) Normative References

- [I-D.ietf-sidr-pfx-validate]
Mohapatra, P., Scudder, J., Ward, D., Bush, R., and R. Austein, "BGP Prefix Origin Validation", [draft-ietf-sidr-pfx-validate-01](#) (work in progress), February 2011.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.
- [RFC2578] McCloghrie, K., Ed., Perkins, D., Ed., and J. Schoenwaelder, Ed., "Structure of Management Information Version 2 (SMIv2)", STD 58, [RFC 2578](#), April 1999.
- [RFC2579] McCloghrie, K., Ed., Perkins, D., Ed., and J. Schoenwaelder, Ed., "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.

with BGP-4", [RFC 2842](#), May 2000.

- [RFC3410] Case, J., Mundy, R., Partain, D., and B. Stewart, "Introduction and Applicability Statements for Internet-Standard Management Framework", [RFC 3410](#), December 2002.
- [RFC4273] Haas, J. and S. Hares, "Definitions of Managed Objects for BGP-4", [RFC 4273](#), January 2006.

[8.2](#). Informative References

- [RFC4271] Rekhter, Y., Li, T., and S. Hares, "A Border Gateway Protocol 4 (BGP-4)", [RFC 4271](#), January 2006.

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