

**IANA Address Family Numbers and Subsequent Address Family Identifiers
YANG Module
[draft-ietf-netmod-iana-afn-safi-00](#)**

Abstract

This document defines the initial version of the iana-afn-safi YANG module.

Status of this Memo

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1. Introduction

This document defines the initial version of the iana-afn-safi YANG module, for Address Family Numbers (AFN) and Subsequent Address Family Identifiers (SAFI).

The iana-afn-safi module reflects IANA's existing "Address Family Numbers" and "SAFI Values" registries.

Whenever a new address family number is added to the "Address Family Numbers" registry, the IANA-ADDRESS-FAMILY-NUMBERS-MIB and the iana-afn-safi YANG module are updated by IANA.

Whenever a new subsequent address family identifier is added to the "SAFI Values" registry, the iana-afn-safi YANG module is updated by IANA.

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2. IANA Maintained AFN and SAFI YANG Module

```
<CODE BEGINS> file "iana-afn-safi.yang"

module iana-afn-safi {
    namespace "urn:ietf:params:xml:ns:yang:iana-afn-safi";
    prefix "ianaaf";

    organization
        "IANA";
    contact
        "          Internet Assigned Numbers Authority

        Postal: ICANN
                  4676 Admiralty Way, Suite 330
                  Marina del Rey, CA 90292

        Tel:      +1 310 823 9358
        E-Mail:  iana@iana.org";
    description
        "This YANG module provides two typedefs containing YANG
         definitions for the following IANA-registered enumerations:
         - Address Family Numbers (AFN)
         - Subsequent Address Family Identifiers (SAFI)

        The latest revision of this YANG module can be obtained from the
        IANA web site.

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        authors of the code. All rights reserved.

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        forth in Section 4.c of the IETF Trust's Legal Provisions
        Relating to IETF Documents
        (http://trustee.ietf.org/license-info).

        This version of this YANG module is part of RFC XXXX; see the
        RFC itself for full legal notices.";
// RFC Ed.: replace XXXX with actual RFC number and remove this
// note.

// RFC Ed.: update the date below with the date of RFC publication
// and remove this note.
revision 2013-07-04 {
```

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```
description
  "Initial revision.";
reference
  "RFC XXXX: IANA Address Family Numbers and
   Subsequent Address Family Identifiers YANG Module";
}

typedef address-family {
  type enumeration {
    // value 0 is reserved by IANA
    enum ipV4 {
      value "1";
      description
        "IP version 4";
    }
    enum ipV6 {
      value "2";
      description
        "IP version 6";
    }
    enum nsap {
      value "3";
      description
        "NSAP";
    }
    enum hdlc {
      value "4";
      description
        "HDLC (8-bit multidrop)";
    }
    enum bbn1822 {
      value "5";
      description
        "BBN 1822";
    }
    enum all802 {
      value "6";
      description
        "802 (includes all 802 media plus Ethernet 'canonical
         format')";
    }
    enum e163 {
      value "7";
      description
        "E.163";
    }
    enum e164 {
      value "8";
```

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```
    description
      "E.164 (SMDS, FrameRelay, ATM)";
}
enum f69 {
  value "9";
  description
    "F.69 (Telex)";
}
enum x121 {
  value "10";
  description
    "X.121 (X.25, Frame Relay)";
}
enum ipx {
  value "11";
  description
    "IPX (Internetwork Packet Exchange)";
}
enum appletalk {
  value "12";
  description
    "Appletalk";
}
enum decnetIV {
  value "13";
  description
    "DECnet IV";
}
enum banyanVines {
  value "14";
  description
    "Banyan Vines";
}
enum e164withNsap {
  value "15";
  description
    "E.164 with NSAP format subaddress";
  reference
    "ATM Forum UNI 3.1";
}
enum dns {
  value "16";
  description
    "DNS (Domain Name System)";
}
enum distinguishedName {
  value "17";
  description
```

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```
        "Distinguished Name (per X.500)";
    }
    enum asNumber {
        value "18";
        description
            "Autonomous System Number";
    }
    enum xtpOverIpv4 {
        value "19";
        description
            "XTP over IP version 4";
    }
    enum xtpOverIpv6 {
        value "20";
        description
            "XTP over IP version 6";
    }
    enum xtpNativeModeXTP {
        value "21";
        description
            "XTP native mode XTP";
    }
    enum fibreChannelWWPN {
        value "22";
        description
            "Fibre Channel World-Wide Port Name";
    }
    enum fibreChannelWWNN {
        value "23";
        description
            "Fibre Channel World-Wide Node Name";
    }
    enum gwid {
        value "24";
        description
            "Gateway Identifier";
    }
    // FIXME: This one is actually called "afi" in the MIB, but
    // that must be a mistake.
    enum l2vpn {
        value "25";
        description
            "AFI for L2VPN information";
        reference
            "RFC 4761: Virtual Private LAN Service (VPLS): Using BGP
            for Auto-Discovery and Signaling
            RFC 6074: Provisioning, Auto-Discovery, and Signaling in
```

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```
        Layer 2 Virtual Private Networks (L2VPNs)";
}

enum mplsTpSectionEndpointIdentifier {
    value "26";
    description
        "MPLS-TP Section Endpoint Identifier";
    reference
        "draft-ietf-mpls-gach-adv";
}

enum mplsTpLspEndpointIdentifier {
    value "27";
    description
        "MPLS-TP LSP Endpoint Identifier";
    reference
        "draft-ietf-mpls-gach-adv";
}

enum mplsTpPseudowireEndpointIdentifier {
    value "28";
    description
        "MPLS-TP Pseudowire Endpoint Identifier";
    reference
        "draft-ietf-mpls-gach-adv";
}

enum eigrpCommonServiceFamily {
    value "16384";
    description
        "EIGRP Common Service Family";
}

enum eigrpIpv4ServiceFamily {
    value "16385";
    description
        "EIGRP IPv4 Service Family";
}

enum eigrpIpv6ServiceFamily {
    value "16386";
    description
        "EIGRP IPv6 Service Family";
}

enum lispCanonicalAddressFormat {
    value "16387";
    description
        "LISP Canonical Address Format (LCAF)";
}

enum bgpLs {
    value "16388";
    description
        "BGP-LS";
    reference
```

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```
        "draft-ietf-idr-ls-distribution";  
    }  
    enum 48BitMac {  
        value "16389";  
        description  
            "48-bit MAC";  
        reference  
            "draft-eastlake-rfc5342bis";  
    }  
    enum 64BitMac {  
        value "16390";  
        description  
            "64-bit MAC";  
        reference  
            "draft-eastlake-rfc5342bis";  
    }  
    // value 65535 is reserved by IANA  
}  
description  
    "This typedef is a YANG enumeration of IANA-registered address  
     family numbers (AFN).";  
reference  
    "IANA Address Family Numbers registry.  
     <http://www.iana.org/assignments/address-family-numbers>";  
}  
  
typedef subsequent-address-family {  
    type enumeration {  
        // value 0 is reserved by IANA  
        enum nlriUnicast {  
            value "1";  
            description  
                "Network Layer Reachability Information used for unicast  
                 forwarding";  
            reference  
                "RFC 4760: Multiprotocol Extensions for BGP-4";  
        }  
        enum nlriMulticast {  
            value "2";  
            description  
                "Network Layer Reachability Information used for multicast  
                 forwarding";  
            reference  
                "RFC 4760: Multiprotocol Extensions for BGP-4";  
        }  
        // value 3 is reserved by IANA  
        enum nlriMpls {  
            value "4";  
        }  
    }  
}
```

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```
description
  "Network Layer Reachability Information (NLRI) with MPLS
   Labels";
reference
  "RFC 3107: Carrying Label Information in BGP-4";
}
enum mcastVpn {
  value "5";
  description
    "MCAST-VPN";
  reference
    "RFC 6514: BGP Encodings and Procedures for Multicast in
     MPLS/BGP IP VPNs";
}
enum nlriDynamicMsPw {
  value "6";
  status "obsolete";
  description
    "Network Layer Reachability Information used for Dynamic
     Placement of Multi-Segment Pseudowires (TEMPORARY -
     Expires 2008-08-23)";
  reference
    "draft-ietf-pwe3-dynamic-ms-pw: Dynamic Placement of Multi
     Segment Pseudowires";
}
enum encapsulation {
  value "7";
  description
    "Encapsulation SAFI";
  reference
    "RFC 5512: The BGP Encapsulation Subsequent Address Family
     Identifier (SAFI) and the BGP Tunnel Encapsulation
     Attribute";
}
enum tunnel {
  value "64";
  status "obsolete";
  description
    "Tunnel SAFI";
  reference
    "draft-nalawade-kapoor-tunnel-safi: BGP Tunnel SAFI";
}
enum vpls {
  value "65";
  description
    "Virtual Private LAN Service (VPLS)";
  reference
    "RFC 4761: Virtual Private LAN Service (VPLS): Using BGP
```

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```
for Auto-Discovery and Signaling

RFC 6074: Provisioning, Auto-Discovery, and Signaling in
Layer 2 Virtual Private Networks (L2VPNs)";
}

enum bgpMdt {
    value "66";
    description
        "BGP MDT SAFI";
    reference
        "RFC 6037: Cisco Systems' Solution for Multicast in
        BGP/MPLS IP VPNs";
}
enum bgp4over6 {
    value "67";
    description
        "BGP 4over6 SAFI";
    reference
        "RFC 5747: 4over6 Transit Solution Using IP Encapsulation
        and MP-BGP Extensions";
}
enum bgp6over4 {
    value "68";
    description
        "BGP 6over4 SAFI";
}
enum l1VpnAutoDiscovery {
    value "69";
    description
        "Layer-1 VPN auto-discovery information";
    reference
        "RFC 5195: BGP-Based Auto-Discovery for Layer-1 VPNs";
}
enum mplsVpn {
    value "128";
    description
        "MPLS-labeled VPN address";
    reference
        "RFC 4364: BGP/MPLS IP Virtual Private Networks (VPNs)";
}
enum multicastBgpMplsVpn {
    value "129";
    description
        "Multicast for BGP/MPLS IP Virtual Private Networks
        (VPNs)";
    reference
        "RFC 6513: Multicast in MPLS/BGP IP VPNs
```

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```
        RFC 6514: BGP Encodings and Procedures for Multicast in
        MPLS/BGP IP VPNs";
    }
    // values 130-131 are reserved by IANA
    enum routeTargetConstraints {
        value "132";
        description
            "Route Target constraints";
        reference
            "RFC 4684: Constrained Route Distribution for Border
            Gateway Protocol/MultiProtocol Label Switching (BGP/MPLS)
            Internet Protocol (IP) Virtual Private Networks (VPNs)";
    }
    enum ipv4DissFlow {
        value "133";
        description
            "IPv4 dissemination of flow specification rules";
        reference
            "RFC 5575: Dissemination of Flow Specification Rules";
    }
    enum vpnv4DissFlow {
        value "134";
        description
            "VPNv4 dissemination of flow specification rules";
        reference
            "RFC 5575: Dissemination of Flow Specification Rules";
    }
    // values 135-139 are reserved by IANA
    enum vpnAutoDiscovery {
        value "140";
        status "obsolete";
        description
            "VPN auto-discovery";
        reference
            "draft-ietf-l3vpn-bgpvpn-auto: Using BGP as an
            Auto-Discovery Mechanism for VR-based Layer-3 VPNs";
    }
    // values 141-240 are reserved by IANA
    enum private241 {
        value "241";
        description
            "Reserved for Private Use";
        reference
            "RFC 4760: Multiprotocol Extensions for BGP-4";
    }
    enum private242 {
        value "242";
        description
```

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```
    "Reserved for Private Use";
    reference
      "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private243 {
  value "243";
  description
    "Reserved for Private Use";
  reference
    "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private244 {
  value "244";
  description
    "Reserved for Private Use";
  reference
    "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private245 {
  value "245";
  description
    "Reserved for Private Use";
  reference
    "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private246 {
  value "246";
  description
    "Reserved for Private Use";
  reference
    "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private247 {
  value "247";
  description
    "Reserved for Private Use";
  reference
    "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private248 {
  value "248";
  description
    "Reserved for Private Use";
  reference
    "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private249 {
  value "249";
```

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```
description
  "Reserved for Private Use";
reference
  "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private250 {
  value "250";
  description
  "Reserved for Private Use";
reference
  "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private251 {
  value "251";
  description
  "Reserved for Private Use";
reference
  "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private252 {
  value "252";
  description
  "Reserved for Private Use";
reference
  "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private253 {
  value "253";
  description
  "Reserved for Private Use";
reference
  "RFC 4760: Multiprotocol Extensions for BGP-4";
}
enum private254 {
  value "254";
  description
  "Reserved for Private Use";
reference
  "RFC 4760: Multiprotocol Extensions for BGP-4";
}
// value 255 is reserved by IANA
}
description
  "This typedef is a YANG enumeration of IANA-registered
   subsequent address family identifiers (SAFI).";
reference
  "IANA SAFI Values registry.
  <http://www.iana.org/assignments/safi-namespace>";
```

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```
    }  
}
```

<CODE ENDS>

3. IANA Considerations

This document defines the initial version of the IANA-maintained iana-afn-safi YANG module.

IANA is requested to extend the registries "Address Family Numbers" and "SAFI Values" with a "Name" column. IANA is also requested to add this new Note to these registries:

The name of an entry in this registry must be a legal SMIv2 enumeration label.

The existing entries in the "Address Family Numbers" registry should get their names from the corresponding "enum" statement in the "address-family" typedef.

The existing entries in the "SAFI Values" registry should get their names from the corresponding "enum" statement in the "subsequent-address-family" typedef.

The iana-afn-safi module is intended to reflect the "Address Family Numbers" and "SAFI Values" registries. When an AFN or SAFI is added to these registries, a new "enum" statement must be added to the "address-family" or "subsequent-address-family" typedefs. The name of the "enum" is the value of the "Name" column in the registry.

The following substatements to the "enum" statement should be defined:

"value": Replicate the value from the registry.

"status": Include only if a registration has been deprecated (use the value "deprecated") or obsoleted (use the value "obsolete").

"description": Replicate the description from the registry, if any.

"reference": Replicate the reference from the registry, if any, and add the title of the document.

If a parameter is marked as "reserved" in these registries, no "enum" statement is added to the corresponding typedef. Instead a comment is added, on the form:

```
// value NN is reserved by XX
```

Unassigned values are not present in the module.

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When the iana-afn-safi YANG module is updated, a new "revision" statement must be added.

IANA is requested to add this new Note to the "Address Family Numbers" and "SAFI Values" registries:

When this registry is modified, the YANG module iana-afn-safi must be updated as defined in RFC XXXX.

The Reference text in the "Address Family Numbers" registry needs to be updated as:

OLD:

[[RFC2453](#)] [[RFC2858](#)]

NEW:

[[RFC2453](#)] [[RFC2858](#)] [[RFCXXXX](#)]

The Reference text in the "SAFI Values" registry needs to be updated as:

OLD:

[[RFC4760](#)]

NEW:

[[RFC4760](#)] [[RFCXXXX](#)]

3.1. URI Registrations

This document registers a URI in the IETF XML registry [[RFC3688](#)]. Following the format in [RFC 3688](#), the following registration is requested to be made.

URI: urn:ietf:params:xml:ns:yang:iana-afn-safi

Registrant Contact: IANA.

XML: N/A, the requested URI is an XML namespace.

3.2. YANG Module Registrations

This document registers a YANG module in the YANG Module Names registry [[RFC6020](#)].

name: iana-afn-safi
namespace: urn:ietf:params:xml:ns:yang:iana-afn-safi
prefix: ianaaf
reference: RFC XXXX

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4. Security Considerations

Since this document does not introduce any technology or protocol, there are no security issues to be considered for this document itself.

5. Normative References

[RFC3688] Mealling, M., "The IETF XML Registry", [BCP 81](#), [RFC 3688](#), January 2004.

[RFC6020] Bjorklund, M., "YANG - A Data Modeling Language for the Network Configuration Protocol (NETCONF)", [RFC 6020](#), October 2010.

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