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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

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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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.

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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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 {
```

```
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";
```

```
        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
```

```
        "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
```

```
        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
```



```
        "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";
```

```
    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
```

```
    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 llVpnAutoDiscovery {
    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"
```

```
        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
```

```
        "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";
```

```
    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>";
```

```
}  
}
```

```
<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.

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

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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