                     An I2RS BGP Information Model
                      draft-hares-i2rs-bgp-im-02.txt

Abstract

   This document introduces an information model for i2RS BGP protocol
   and network policy that aligns with the I2RS BGP use cases. This
   draft utilizes the general Policy based routing structured found in
   the RIB Information Model (IM) and Policy Base Policy.

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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   time. It is inappropriate to use Internet-Drafts as reference
   material or to cite them other than as "work in progress."

   This Internet-Draft will expire on April 26, 2015.

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1. Introduction

   The Interface to the Routing System (I2RS) provides read and write
   access to the information and state within the routing process within
   routing elements via protocol message exchange between an I2RS Client
   and an I2RS Agent associated with the a routing system. The
   [I-D.ietf-i2rs-architecture] describes the basic interactions of this
   exchange. One of the important functions of this messages exchange
   is for the I2RS client to interact with one or more I2RS agents to
   collect information from network routing systems.

   One of the key information pieces that I2RS clients may collect from
   I2RS agents is the BGP information regarding BGP peers, BGP routes,
   and network topologies created within BGP. This document introduces
   a basic information model for BGP policies. This policy model can be
   linked with other information models such as the I2RS RIB
   informational model [I-D.ietf-i2rs-rib-info-model], and uses the
   generic policy found in the Policy Routing modules in
   [I-D.hares-i2rs-info-model-policy]. This basic BGP Information Model
   is an extendable policy model is a product of the industry approach
   to I2RS.

2. Definitions and Acronyms

     BGP: Border Gateway Protocol

     Information Model: An abstract model of a conceptual domain,
     independent of a specific implementation or data representation

     NETCONF:The Network Configuration Protocol as defined in [RFC6536]

     RESTCONF: The REST-like protocol that provides a programmatic
     interface over HTTP for accesing data defined in YANG, using
     datastores defined in NETCONF Protocol [I-D.ietf-netconf-restconf]
     as defined in RBNF: Routing Backus-Naur Form [RFC5511].

3. BGP Data

   BGP data includes information related to the BGP protocol instances,
   BGP Peer information, BGP Route information, and BGP policy. This
   section describes the information associated with the I2RS agent
   accessible via BGP.

3.1. BGP Protocol

   BGP protocol support within a router(or virtual routing device) may
   have multiple instances of the BGP protocol. This section describes
   the information regarding the BGP protocol available to the I2RS
   Agent. The section begins with a top-level diagram of the Yang Data
   Model, and then goes to define the Yang data model in text.

   Protocol

     The BGP protocol information stores a group of information
     associated with a BGP protocol implementation. This group of
     informational includes:

     * Router-ID (R/W) - Router-ID for BGP protocol,

     * AS(R/W)- Autonomous System Number,

     * protocol_status (R) - administrative status of the protocol,

     * shutdown_protocol (R/W) - Shutdown the BGP protocol,

     * ROLES (R) - a composite set of roles BGP peers play,

     * bgp-ipv4-uni-instance (R/W) - instance for IPv4 unicast

* bgp-labled-ipv4instance (R/W) - instance for IPv4 unicast with lablels

* bgp-ipv4-multi-instance (R/W) - instance for IPv4 multicast

* bgp-vpnv4-instance (R/W) - instance for IPv4 VPNs

* bgp-vpn-l3vp-instance-list (R/W) list of L3VPN instances indexed by the BGP instance name

* bgp-ipv6-uni-instance (R/W) - instance handling IPv6 unicast

* bgp-label-ipv6-instance (R/W) - instance with iPv6 prefix plus labels

* bgp-ipv6-multi-instance (R/W) - bgp IPv6 multicast instance

* bgp-ipv6-vpn-instance-list (R/W) - list of Ipv6 L3VPN instances

The sections below describe these elements.

3.1.1. Yang Data Model for I2RS BGP IM Protocol Block

```
   +--rw bgp-protocol
      +--rw router-id?                       inet:ip-address
      +--rw as-number?                       uint32
      +--ro protocol-status?                 enumeration
      +--rw shutdown-protocol?               boolean
      +--ro bgp-role?                        enumeration
      +--rw bgp-ipv4-uni-instance
      |  ...
      +--rw bgp-labeled-ipv4-instance
      |  ...
      +--rw bgp-ipv4-multi-instance
      |  ...
      +--rw bgp-vpnv4-instance
      |  ...
      +--rw bgp-ipv4-l3vpn-instance-list* [bgp-l3vpn-instance-name]
      |  ...
      +--rw bgp-ipv6-uni-instance
      |  ...
      +--rw bgp-labeled-ipv6-instance
      |  ...
      +--rw bgp-ipv6-multi-instance
      |  ...
      +--rw bgp-vpnv6-instance
      |  ...
      +--rw bgp-ipv6-l3vpn-instance-list* [bgp-l3vpn-instance-name]
      |  ...
```

3.1.2. Elements in I2RS Protocol Block

   This section describes each element of the I2RS Protocol Block.

   Router-ID (R)

      This I2RS BGP IM element stores the ROUTER-ID which is configured
      in the BGP protocol as the default router-id. Instances of a
      protocol may configure unique router-IDs. The router-ID is a 32
      bit unsigned value imported from the running BGP process.

   Router-ID (W)

      Upon a write from the I2RS Client to this I2RS BGP IM element,
      this I2RS Agent will temporarily change this default in the BGP
      protocol. I2RS Agent-routing system software must be able to
      handle both the original value (from node configuration systems),
      and the I2RS value as valid defaults. This change in the ROUTER_-
      ID default is passed to the BGP instances spawned from the BGP

protocol. After the I2RS Client stops the relationship with the
I2RS Agent, the Router-ID value reverts to the configured value.

AS(R/W)

This I2RS BGP IM element stores the default AS number configured
in the BGP implementation. This value is 8 byte value represented
as a decimal value. This value is a read-write value. The
initial value of the AS is imported by the I2RS Agent from the BGP
protocol in the BGP routing system. This the normal case. If
this data element is written to, I2RS stores the default AS number
value in the BGP protocol as the new default AS in the BGP
protocol. This does not change the default AS number in existing
BGP instances with the existing peers. New BGP instances spawned
after the I2RS changes the default AS value, should have the I2RS
specified default AS. Upon the completion of the I2RS client-I2RS
Agent association, the default AS value should be returned to the
configured value.

protocol_status (R)

This I2RS BGP IM element stores an administrative status for the
protocol activity of "no-shutdown" (0x00) or "shutdown" (0x01).
If the routing entity the I2RS protocol is attached has BGP
"shutdown", no data will be available from any BGP instances.
This is a read-only variable.

shutdown_protocol(R/W)

A write of "TRUE" to the "shutdown_protocol" status in the I2RS
Agent indicates the I2RS agent should request a shutdown of the
BGP protocol from the routing function. The default value is
"FALSE" for this I2RS variable. The read of the
"shutdown_protocol" indicate the current status of the
"shutdown_protocol" variable in the I2RS Agent. This is different
than the "protocol_status" which indicates the status of the
protocol: shutdown or not "shutdown" (running).

bgp_role (R)

The BGP_ROLE provides a list of BGP Roles found within the BGP
Instances associated with the BGP protocol function on the device
associated with the I2RS agent. These can be ASBR (AS border
router E-BGP), PE (Provider Edge E-BGP), IBGP peer, or RR (Route
Reflector).

bgp-ipv4-uni-instance (R-W)

This element BGP instances provides support for IPv4 unicast , and
contains the associated bgp local rib, bgp peer list, bgp rib-in,
and bgp-rib-out associated with IPv4 Unicast.

bgp-labeled-ipv4-instance (R-W)

This element provides the bgp instance with routes associated with
label routes. (Contains bgp local rib, bgp peer list, bgp rib-in,
and bgp rib-out for these routes).

bgp-ipv4-multi-instance (R-W)

This element contains an bgp instance for IPv4 multicast.
(Contains bgp local rib, bgp peer list, bgp rib-in, and bgp rib-
out for these routes).

bgp-vpnv4-instance (R-W)

This element contains BGP instance IPv4 VPNs. (Contains bgp local
rib, bgp peer list, bgp rib-in, and bgp rib-out for these routes).

bgp-ipv4-L3vpn-instance-list* (R-W)

This element contains BGP instance IPv4 VPNs. (Contains bgp local
rib, bgp peer list, bgp rib-in, and bgp rib-out for these routes).

bgp-ipv6-uni-instance (R-W)

This element contains BGP instance IPv6 unicast routes. (Contains
bgp local rib, bgp peer list, bgp rib-in, and bgp rib-out for
these routes).

bgp-labeled-ipv6-instance (R-W)

This element provides the bgp instance with routes associated with
label routes. (Contains bgp local rib, bgp peer list, bgp rib-in,
and bgp rib-out for these routes).

bgp-ipv6-multi-instance(R-W)

This element contains an bgp instance for IPv6 multicast.
(Contains bgp local rib, bgp peer list, bgp rib-in, and bgp rib-
out for these routes).

bgp-vpnv6-instance (R-W)

This element contains BGP instance IPv6 VPNs. (Contains bgp local
rib, bgp peer list, bgp rib-in, and bgp rib-out for these routes).

bgp-ipv6-L3vpn-instance-list* (R-W)

   This element contains BGP instance IPv4 VPNs. (Contains bgp local
   rib, bgp peer list, bgp rib-in, and bgp rib-out for these routes).

3.2. bgp_ipv4_instance

   BGP protocol support within a router(or virtual routing device) may
   have multiple instances of the BGP protocol. This section describes
   the information regarding the BGP protocol available to the I2RS
   Agent. The section begins with a top-level diagram of the Yang Data
   Model, and then goes to define the Yang data model in text.

3.2.1. Yang Data Model bgp ipv4 unicast instance

   This figure below the yang model at bgp instance to handle the bgp
   instance. Within Yang, the definition is based on a a grouping which
   has name, I2rs creation flags, standard instance type, vendor type,
   afi, safi, bgp local RIB, and BGP peers. The standard instances
   types are: IPv4 unicast, IPv4 multicast, IPv4 L3vpn, VPLS, MDT, EVPN,
   BGP-ls, IPv4-mpls-vpn, IPv4-mpls-mvpn, BGP route-targets, IPv4 flow,
   IPv4 vpn-flow, IPv4 vrf-list, IPv6 vrf-list, and IPv6 unit, and IPv6
   vpnv6. It also could contain instance types defined by vendors (bgp-
   vendor-type). This informational model contains the details of the
   instance grouping and its subcomponents: bgp-instance-name, bgp-
   instance-create, bgp-instance-type bgp-vendor-type, afi, safi, bgp-
   local-rib, and bgp-peer list. It does not enumerate these for each
   of the instance types, but provides a full yang tree of this
   definition in section x.

```
     +--rw bgp-ipv4-uni-instance
        |  +--rw bgp-instance-name?     string
        |  +--rw bgp-instance-create?   enumeration
        |  +--rw bgp-instance-type?     enumeration
        |  +--rw bgp-vendor-type?       enumeration
        |  +--rw afi?                   afi-def
        |  +--rw safi?                  safi-def
        |  +--rw bgp-local-rib
      =......
        |  +--rw bgp-peer-list* [bgp-peer-name]
         ......
```

3.2.2. Elements in bgp ipv4 unicast instance

   The definitions of the fields in BGP Instance are:

   BGP_INSTANCE_NAME (R/W)

The BGP_INSTANCE_NAME provides a name to uniquely identify the BGP instance.

BGP_INSTANCE_CREATION(R/W)

is the flag to indicate whether the I2RS client is requesting the I2RS agent to have the BGP routing protocol create a new BGP instance for these I2RS parameters. The internal status includes:

* Not I2RS created (NOT-I2RS),

* I2RS client requests creation (I2RSCLIENT_CREATE_BGP_INSTANCE),

* I2RS Agent rejects creation (I2RSAGENT_REJECTS_BGP_INSTANCE_CREATE),

* I2RS Agent attempting creation (I2RSAGENT_ATTEMPTS_BGP_INSTANCE_CREATE), and

* I2RS Agent failed creation (I2RSAGENT_FAILS_BGP_INSTANCE_CREATE)

* I2RS Agent created BGP instance (I2RSAGENT_CREATED_BGP_INSTANCE)

BGP_INSTANCE_TYPE (R/W)

contains flag field that summarizes common AFI-SAFIs within a flag word. This enumeration

* BGP_IPV4_UNI flag - is a flag for AFI of IPV4 and a SAFI of Unicast (1).

* BGP_IPV4_MULTI flag - is a flag for AFI of IPV4 and a SAFI Multicast (2).

* BGP_L3VPN I is a flag for AFI of IPv4 and a SAFI of MPLS labels (4).

* BGP_IPv4_MVPN- is a flag for AFI of IPv4 and a SAFI of MCAST VPN (5).

* BGP_VPLS - is a flag for an AFI of IPv4 and a SAFI VPLS (65).

* BGP_IPV4_MDT - is a flag for AFI of IPv4 and a SAFI of BGP MDT (66).

* BGP_EVPN - is a flag for APFI of IPv4 and SAFI of EVPNs (70)

* BGP_LS - is a flag for an AFI of IPv4 and a SAFI of BGP link state (LS) (71).

* BGP_IPV4_MPLS_VPN - is a flag for an AFI of IPv4 and a SAFI MPLS-labled Unicast VPNs (128).

* BGP_IPv4_MPLS_MVPN - is a flag for an AFI of IPv4 and a SAFI MPLS-labeled Multicast VPNs (129).

* BGP_IPv4_ROUTE_TARGET - is a flag for the AFI of IPv4 and a SAFI of Route Target Constraints (132)

* BGP_IPv4_FLOW - is a flag for an AFI of IPv4 and a SAFI of IPv4 dissemination of flow specification rules (133).

* BGP_IPv4_VPN_FLOW - is a flag for an AFI of IPv4 and a SAFI of IPv4 VPN dissemination of flow specification rules(134).

* BGP_L2AD - is a flag for an AFI of IPv4 and a SAFI L2 Auto-discovery (140)

* BGP_IPv6_UNI - is a flag for AFI of IPv6 and SAFI of Unicast (1)

* BGP_IPv6_MULTI - is a flag for API of IPv65 and a SAFI of Multicast (2)

* BGP_IPV6_MPLS_VPN - is a flag for AFI of IPV4 and SAFI of Unicast MPLS VPNS.

BGP_VENDOR_TYPE(R/W)

   contains a field to specify Vendor to identify different mechanism of BGP configuration.

AFI (R/W)

   The AFI value from the standard values found in IANA's Address Family Numbers.

SAFI (R/W)

   The AFI value from the standard values found in IANA's SAFI values.

bgp-local-rib (R/W)

The bgp-local-rib contains the contains a local RIB for BGP
associated with this BGP instance. Every BGP instance has its own
local RIB which contains the routes received by all Peers (Adj-
RIB-IN per Peer), and selected by policy as the active route by
the local BGP speaker's Decision Process.

bgp-peer-list (R/W)

   contains a list of BGP Peer information (BGP_PEER) associated with
   this BGP instance. A write to this BGP Peer list adds a BGP Peer
   to this BGP instance.

rib-in (R/W)

   This contains bgp-rib-in route list.

rib-out (R/W)

   This contains bgp-rib-out route list.

3.3. bgp local rib

The routes associated with each BGP instance are the BGP local RIB,
the AdjRIBIn, and the AdjRIBOut. The BGP local RIB is described
below. The AdjRIBIn is the bgp_rib_in described in the BGP_Peer
section. The policy that sets preferences on the routes received by
the peer is identified by the Peer_policy_in (an policy set name),
and fully readable by the Peer_policy_in_pset (policy set pointer)
entry.

The AdjRIBOut is contained in bgp_rib_out (a route list) described in
the BGP Peer Section. The Policy associated with the AdjRIBOut is
identified by the Peer_policy_out (a policy set name) and fully
readable by the Peer_policy_out_pset (policy set pointer).

This section describes the bgp local ribs for IPv4 unicast routes as
a prototype for all rib routes.

Each bgp local RIB listed below may be created and stored as a prefix
tree. However, yang model descriptions describe it as a list of
routes with an index of prefix and length. The above top-level yang
demonstrates this. This yang mechanism requires a unique definition
per AFI/SAFI.

Each rib is indexed by the prefix/prefix-length and contains route
type, attribute list, route creation information, and state
information. The IPv4 local RIB shows the full definition of the

route type, attribute list, route creation, and state information.
Subsequent RIBs do not repeat this information.

3.3.1. bgp-local-rib for IPv4 routes

This section contains the overview of the bgp-local-rib for IPv4
routes, and serves as a prototype for all other ribs.

3.3.1.1. Yang Top-level for bgp-local-rib for IPv4 routes

This section describes the high-level yang definition for a local RIB
with IPv4 routes. This serves as an prototype of all bgp-local-ribs.

```
        +--rw bgp-local-rib
        |  +--rw bgp-route-list* [ipv4-route ipv4-prefix-length]
        |     +--rw ipv4-route             inet:ipv4-prefix
        |     +--rw ipv4-prefix-length     uint8
        |     +--rw bgp-route-type?        enumeration
        |     +--rw route-admin-distaince  uint16
        |     +--rw bgp-attribute-list
        |     |  +--rw bgp-origin?          enumeration
        |     |  +--rw bgp-aspath
        |     |  |  +--rw usascount?         uint16
        |     |  |  +--rw ulrefcount?        uint16
        |     |  |  +--rw asstring?          string
        |     |  |  +--ro usascountfrcomp?   uint16
        |     |  |  +--rw usastotalcount?    uint16
        |     |  |  +--rw usas4pathlen?      uint16
        |     |  |  +--rw as4pathvalue?      string
        |     |  +--rw bgp-nexthop?               inet:ip-address
        |     |  +--rw bgp-med?                   uint32
        |     |  +--rw bgp-localpref?             uint32
        |     |  +--rw bgp-atomic-aggregate?      uint32
        |     |  +--rw bgp-aggregator
        |     |  |  +--rw ulipaddress?   uint32
        |     |  |  +--rw ulasnumber?    uint32
        |     |  +--rw bgp-commattr
        |     |  |  +--rw uscommsize?        uint16
        |     |  |  +--rw ulrefcomm?         uint32
        |     |  |  +--rw commattr-value?    string
        |     |  +--rw bgp-extcommattr
        |     |  |  +--rw custome-community
        |     |  |  |  +--rw valid               boolean
        |     |  |  |  +--rw insertion-pont      uint32
        |     |  |  |  +--rw community-id        unit8
        |     |  |  |  +rw cost-id               uint32
        |     |  |  +--rw usextcommsize?      uint16
        |     |  |  +--rw ulrefcount?         uint32
        |     |  |  +--rw extcommattr-value?  string
        |     |  +--rw bgp-clusterlist
        |     |  |  +--rw uscluslen?          uint16
        |     |  |  +--rw ulrefclus?          uint32
        |     |  |  +--rw clusterlist-value?  string
        |     |  +--rw bgp-originator-id?     uint32
        |     +--ro bgp-route-create?    enumeration
        |     +--ro bgp-rt-state-info
        |        +--ro rib-current-state?     rib-state-def
        |        +--ro rib-last-state?        rib-state-def
        |        +--ro rib-rejected-reason?   enumeration
        |        +--ro not-preferred-reason?  enumeration
```

3.3.1.2. Common definitions for bgp-local-rib for IPv4 routes

   The BGP Local RIB Entries are:

   BGP_ROUTE_TYPE(R/W)

      contains a ROUTE TYPE indicator (enumerated type). The enumerated
      types are:

      * bgp-route-type-rd - route with RD information

      * bgp-route-type-ipv4- IPv4 unicast route

      * bgp-route-type-ipv6 -IPv6 unicast route

      * bgp-route-labeled-ipv4 - IPv4 with labels attached

      * bgp-route-labeled-ipv6 - IPve6 associated labels

      * bgp-route-type-flow - flow specifications

      * bgp-route-type-evpn - EVPN API/SAFI

      * bgp-route-type-mvpn - Mutlicast VPN

      * bgp-route-type-vpls - VPLS routes

      * bgp-route-type-bgp-ls - BGP Link-state distribution info

      * bgp-route-type-l2vpn-signaling-nlri - L2VPN signalling NLRI

      * bgp-rt-constraint - constraint RT AFI/SAFI

      * pw-route - pseudo-wire route

   bgp-attribute-list (R/W)

      contains a list of bgp attributes of the following BGP attributes

      * bgp-origin - origin of BGP route (IGP, EGP or incomplete)

      * bgp-aspath structure which contains use count (usascount),
         reference count (ulrefcount), AS (in string form), length of as
         sequence (usascountfrcmp), total number of as in path count
         (usastotalcount), length of 4-byte AS path tlvs (usaspathlen),
         and string with 4-byte AS path value (as4pathvalue).

      * bgp-nexthop - BGP next hop

* bgp-med - Multi-Exit Descriminator

* bgp-localpref - Local Preference for route

* bgp-atomic-aggregation - ID for aggregator

* bgp-aggregator -IPv4 address (4 bytes) (ulipadddress), AS
  number (4 byte) (ulasnumber)

* bgp-community attribute (bgp-comm-attr) which contains: size of
  community attribute (uscommsize), reference count (ulrefcomm),
  and value (string).

* bgp extended community which contains: custom-cost community
  (valid flag, insertion pint, community id, and cost), size of
  community attribute (usexcommsize), reference count
  (ulrefcount), and external community value
  (string)(extcommattr-value),

* bgp cluster list which contains: lengthof cluster lists
  (uscluslen), reference count (ulrefclus), list of values
  (string)(clusterlist-value)

bgp_route_creation (R/W)

   provides the status of the creation of a BGP route requested by a
   I2RS Client to I2RS agent to be created in the BGP instance's
   local route. The status includes the following:

   * not-i2rs - routes created by non-I2RS sources

   * i2rs-client-create-bgp-route - client requests a bgp local
     route created

   * i2rsagent-fails-bgp-route-create - I2rs agent fails to create
     bgp local rib route

   * i2rsagent-bgp-route-created - I2rsagent created this bgp local
     rib route

   * i2rsagent-rejects-bgp-route-create - I2rs agent policy rejects
     attempt

   * i2rsagent-attempts-bgp-route-create - route create in process

bgp_status_info (R/W)

   contains a set of BGP status that includes:

          * rt_rib_current_state

          * rt_rib_last_state

          * rt_rib_reject_reason

          * rt_not_preferred

3.4. BGP Peer

   This section describes the BGP peer structure.

3.4.1. Yang Top Level for BGP Peer

       +--rw bgp-peer-list* [bgp-peer-name]
          +--rw peer-session-address
          | +--rw local-ipv4-address?   inet:ipv4-prefix
          | +--rw remote-ipv4-address?   inet:ipv4-prefix
          +--rw bgp-peer-name   string
          +--ro bgp-peer-type?   enumeration
          +--ro bgp-peer-create?   enumeration
          +--rw bgp-policy-in
          +--rw bgp-policy-out
          +--ro peer-policy-in-pset
          +--ro peer-policy-out-pset
          +--rw peer-state-info
          | +--ro peer-current-state?   peer-state
          | +--ro peer-last-state?   peer-state
          | +--ro peer-down-reason
          | | +--ro error-code?   enumeration
          | | +--ro sub-error-code
          | | +--ro (sub-error-code-type)?
          | | +--:(head-error-sub-code)
          | | | +--ro head-error-sub-value? enumeration
          | | +--:(open-error-sub-code)
          | | | +--ro open-error-sub-value? enumeration
          | | +--:(update-error-sub-code)
          | | | +--ro update-error-sub-value? enumeration
          | | +--:(route-refresh-error-sub-code)
          | | +--ro route-refresh-error-sub-value?
          | | enumeration
          | +--ro peer-received-update-cnt?   uint64
          | +--ro peer-transmit-update-cnt?   uint64
          | +--ro peer-received-route-cnt?   uint64
          | +--ro peer-send-route-cnt?   uint64
          | +--rw max-prefix-rcv-limit?   uint64
          | +--rw max-prefix-xmt-limit?   uint64

```
       |   +--ro peer-prefix-high?          uint64
       |   +--ro peer-prefix-low?           uint64
       |   +--ro peer-prefix-ave?           uint64
       |   +--ro peer-prefix-time?          uint64
       |   +--ro peer-prefix-max?           uint64
       |   +--ro publish-version?           uint64
       +--rw bgp-rib-in
       +--rw bgp-rib-in-list* [ipv4-route ipv4-prefix-length]
          +--rw ipv4-route             inet:ipv4-prefix
          +--rw ipv4-prefix-length     uint8
          +--rw bgp-route-type?        enumeration
          +--rw bgp-attribute-list
             ....
          +--ro bgp-route-create?      enumeration
          +--ro bgp-rt-state-info
             ....
       +--rw bgp-rib-out
          +--rw bgp-rib-out-list* [ipv4-route ipv4-prefix-length]
          +--rw ipv4-route             inet:ipv4-prefix
          +--rw ipv4-prefix-length     uint8
          +--rw bgp-route-type?        enumeration
          +--rw bgp-attribute-list
           ....
          +--ro bgp-route-create?      enumeration
          +--ro bgp-rt-state-info
          ....
```

3.4.2. Elements in BGP peer Structure

   The following are the elements in the BGP_Peer structure

   BGP_PEER_NAME (R/W)

      This entry uniquely names a BGP Peer. If multiple TCP connections
      are utilized between two BGP Peers, then the BGP Peer uniquely
      identifies the Peering. An I2RS Write to a BGP_PEER_NAME changes
      the BGP_PEER_NAME For the duration of the I2RS client-agent
      association for the run-time BGP, but it does not change the
      configured BGP Peer name.

   Peer_Session_Address (R/W)

      provides local peer address information and remote peer address
      information. Please see the description below for the details of
      the BGP session address. An I2RS read of this information pulls
      this information pulls up the the BGP Peer data in ephemeral
      store. The I2RS write to this causes the peer to attempt to set-

up a TCP session either initial TCP session or a second TCP
session in with multiple TCP support

BGP_PEER_TYPE (R/W)

contains the status on the type of BGP such as EBGP, IBGP, RR, RR-
Client, PE, or CE. or Vendor specific types. (I2RS Note: Does
this match normal configuration expectation or should this be an
I2RS special variable)

BGP_Peer_create(R/W)

provides the I2RS creation status for this peer as: not-created by
I2RS, requested by client but not processed, or an I2RS agent's
response to the request: (agent reject peer creation, agent
attempting peer creation, Agent failed peer creation, and Agent
created BGP Peer).

Peer_policy_in (R/W)

- This allows reference of the bgp inbound policy by policy set
name. Policy sets are defined by [RFC3460], and refers to the
name of the policy set. This allows I2RS to read/write the policy
set name, and let the I2RS agent link in the appropriate policy
set.

Peer_policy_out (R/W)

- This allows reference of the outbound policy by policy set
names, and let the I2RS agent load an existing policy set.

Peer_policy_in_pset (R/W)

Full policy set loaded for Peer_policy_in_pset.

Peer_policy_in_pset (R/W)

Full policy set loaded for Peer_policy_in_pset.

Peer state info (ro)

includes the following information:

* Peer_current_state (R) the the current state of the BGP Peer in
   the BGP state machine.

* Peer_last_state (R)

* Peer_down_reason (R) which includes the reason and the sub-
  error codes for bgp header errors, bgp open errors, bgp update
  errors, and bgp route refresh errors

* peer-received-update-cnt (ro) - received

* peer-transmit-update-cnt (ro)

* peer-received-route-cnt (ro)

* peer-send-route-cnt (ro)

* peer-max-prefix-rcv-limit (rw)

* peer-max-prefix-xmt-limit(rw)

* peer-prefix-high (ro)

* peer-prefix-low (ro)

* peer-prefix-ave (ro)

* peer-prefix-time (ro)

* peer-prefix-max (ro)

* publish-version (ro)

bgp_rib_in

Route received (AdjRIBIn) in tree expressed in yang as a list of
routes index by IPv4-route and Ipv4-prefix-length. Each route
contains the following:

* bgp-route-type (rw) - type of route (described above)

* bgp-attribute-list (rw) - described above)

* bgp-route-create (ro) - source config or I2RS create status
  (described above)

* bgp-route-state (ro) - state of route (described above)

bgp_rib_out (R/W)

- Route output (AdjRIBOut) in tree expressed in yang as a list of
routes index by IPv4-route and Ipv4-prefix-length. Each route
contains the following:

* bgp-route-type (rw) - type of route (described above)

* bgp-attribute-list (rw) - described above)

* bgp-route-create (ro) - source config or I2RS create status
  (described above)

* bgp-route-state (ro) - state of route (described above)

3.4.3. Reading/Writing Policy in I2RS IM model for BGP Peer

   The I2RS Agent's peer inbound and outbound policies are logically
   considered to be stored in policy sets that logically are defined in
   [RFC3460] but have the additions to be appropriate for I2RS basic
   network policy as described [I-D.hares-i2rs-bnp-info-model]. Policy
   groups uniquely identified by a Policy name. Policy sets are
   described either by name so that an on-board policy set is associated
   with the I2RS control BGP peer, or by full policy sets (-pset). This
   section describes why the choice to allow both name for pre-loaded
   policy sets and full policy set description.

   Some I2RS clients will have long-term connections to I2RS Agents
   associated with a BGP routing function, and may choose to transfer
   the BGP Policy set or a set of the BGP Policy Components to the
   client's local memory. In this case, the I2RS Client could request
   the I2RS Agent to simply transfer the BGP Policy Sets name used by
   for the BGP Peers to minimize travel along with an indication of the
   last time the policy was updated.

   The policy variables Peer_policy_in and Peer_policy_out allow both
   read and write of the Policy set names. The read of the
   Peer_policy_in and Peer_policy_out will provide simply the policy-set
   name. The write of the Peer_policy_in the I2RS agent will need to
   valid the the policy set name. After the policy set name is
   validated, the policy set link is placed in Peer_policy_in_pset and
   the BGP routing function updated with the policy set lists for the
   BGP Peer.

   Similarly, if a write occurs to I2RS Agent's Peer_policy_out, the
   I2RS agent validates the policy-set name , replaces
   Peer_policy_out_pset with the link to the policy-set identified by
   the Policy-set name.

   Reading either Peer_policy_in_pset will result in the I2RS Agent
   passing the policy linked to by the Peer_policy_in name (and linked
   to by Peer_policy_in_pset) to the I2RS Client in policy set form.
   Similarly, reading the Peer_policy_out_pset will retrieve the policy

set pointed to by the Peer_policy_out name, and transfer the data in policy set form.

3.5. Additional variable used within all RIBS

The following additional variables are defined in the additional routes types.

o route-distinguisher (R/W) - defined as route-distinguisher-def

o mpls-label (R/W) - defined as 24 bit mpls labels

o EVPN_AD_ROUTE (R/W) contains the following

   * route-type - EVPN route type

   * route-distinguisher - EVPN route distringuisher

   * esi - string

   * eth-tag-id - 32 bit ethernet tag

o evpn-mac-route contains the following

   * route-type (r/w) - evpn-route-type

   * route-distinguisher (r/w)

   * esi (r/w) - string

   * eth-tag-id (r/w) 32 bit ethernet tag

   * mac-length (r/w) - length mac address (unit8)

   * mac-address (r/w)

   * ip-address-length (r/w) (uint8)

   * ip-address (r/w)

   * label 1 (r/w) (uint32)

   * label 2 (r/2) (uint32)

o evpn-mcast-tree-route contains the following

   * route-type (r/w)

     * route-distinguisher (r/w)

     * eth-tag-id (r/w) ethernet tag id

     * ip address-length (r/w) uint32

     * origin-router-ip-address (r/w)

   o evpn-eth-segment-route contains the following:

     * route-type (r/w) - evpn-route-type

     * route-distinguisher (r/w)

     * esi (r/w) - string ethernet segment id

     * ip address length(r/w) uint8

     * origin-router-ip-address (r/w)

     * FLOW_route (R/W) - to be completed

     * MDT route (R/W) - to be completed

4. BGP Yang top-level description

   Below is the full BGP Yang top-level description

```
odule: bgp-protocol
   +--rw bgp-protocol
      +--rw router-id?                      inet:ip-address
      +--rw as-number?                      uint32
      +--ro protocol-status?                enumeration
      +--rw shutdown-protocol?              boolean
      +--ro bgp-role?                       enumeration
      +--rw bgp-ipv4-uni-instance
      |  +--rw bgp-instance-name?      string
      |  +--rw bgp-instance-create?    enumeration
      |  +--rw bgp-instance-type?      enumeration
      |  +--rw bgp-vendor-type?        enumeration
      |  +--rw afi?                    afi-def
      |  +--rw safi?                   safi-def
      |  +--rw bgp-local-rib
      |  |  +--rw bgp-route-list* [ipv4-route ipv4-prefix-length]
      |  |     +--rw ipv4-route            inet:ipv4-prefix
      |  |     +--rw ipv4-prefix-length    uint8
      |  |     +--rw bgp-route-type?       enumeration
      |  |     +--rw route-admin-distance  uint16
```

```
│  │         +--rw bgp-attribute-list
│  │         │  +--rw bgp-origin?              enumeration
│  │         │  +--rw bgp-aspath
│  │         │  │  +--rw usascount?        uint16
│  │         │  │  +--rw ulrefcount?       uint16
│  │         │  │  +--rw asstring?         string
│  │         │  │  +--ro usascountfrcomp?  uint16
│  │         │  │  +--rw usastotalcount?   uint16
│  │         │  │  +--rw usas4pathlen?     uint16
│  │         │  │  +--rw as4pathvalue?     string
│  │         │  +--rw bgp-nexthop?            inet:ip-address
│  │         │  +--rw bgp-med?                uint32
│  │         │  +--rw bgp-localpref?          uint32
│  │         │  +--rw bgp-atomic-aggregate?   uint32
│  │         │  +--rw bgp-aggregator
│  │         │  │  +--rw ulipaddress?   uint32
│  │         │  │  +--rw ulasnumber?    uint32
│  │         │  +--rw bgp-commattr
│  │         │  │  +--rw uscommsize?       uint16
│  │         │  │  +--rw ulrefcomm?        uint32
│  │         │  │  +--rw commattr-value?   string
│  │         │  +--rw bgp-extcommattr
│  │         │  │  +--rw
│  │         │  │  │  +--rw valid             boolean
│  │         │  │  │  +--rw insertion-point uint32
│  │         │  │  │  +--rw community-id      uint8
│  │         │  │  │  +--rw cost-id           uint32
│  │         │  │  +--rw usextcommsize?    uint16
│  │         │  │  +--rw ulrefcount?       uint32
│  │         │  │  +--rw extcommattr-value?   string
│  │         │  +--rw bgp-clusterlist
│  │         │  │  +--rw uscluslen?        uint16
│  │         │  │  +--rw ulrefclus?        uint32
│  │         │  │  +--rw clusterlist-value?   string
│  │         │  +--rw bgp-originator-id?      uint32
│  │      +--ro bgp-route-create?    enumeration
│  │      +--ro bgp-rt-state-info
│  │         +--ro rib-current-state?      rib-state-def
│  │         +--ro rib-last-state?         rib-state-def
│  │         +--ro rib-rejected-reason?    enumeration
│  │         +--ro not-preferred-reason?   enumeration
│  +--rw bgp-peer-list* [bgp-peer-name]
│     +--rw peer-session-address
│     │  +--rw local-ipv4-address?    inet:ipv4-prefix
│     │  +--rw remote-ipv4-address?   inet:ipv4-prefix
│     +--rw bgp-peer-name            string
│     +--ro bgp-peer-type?           enumeration
│     +--ro bgp-peer-create?         enumeration
```

```
      │          +--rw bgp-policy-in
      │          +--rw bgp-policy-out
      │          +--ro peer-policy-in-pset
      │          +--ro peer-policy-out-pset
      │          +--rw peer-state-info
      │          │  +--ro peer-current-state?        peer-state
      │          │  +--ro peer-last-state?           peer-state
      │          │  +--ro peer-down-reason
      │          │  │  +--ro error-code?        enumeration
      │          │  │  +--ro sub-error-code
      │          │  │     +--ro (sub-error-code-type)?
      │          │  │        +--:(head-error-sub-code)
      │          │  │        │  +--ro head-error-sub-value? enumeration
      │          │  │        +--:(open-error-sub-code)
      │          │  │        │  +--ro open-error-sub-value? enumeration
      │          │  │        +--:(update-error-sub-code)
      │          │  │        │  +--ro update-error-sub-value? enumeration
      │          │  │        +--:(route-refresh-error-sub-code)
      │          │  │           +--ro route-refresh-error-sub-value?
      │          │  │                                    enumeration
      │          │  +--ro peer-received-update-cnt?   uint64
      │          │  +--ro peer-transmit-update-cnt?   uint64
      │          │  +--ro peer-received-route-cnt?    uint64
      │          │  +--ro peer-send-route-cnt?        uint64
      │          │  +--rw max-prefix-rcv-limit?       uint64
      │          │  +--rw max-prefix-xmt-limit?       uint64
      │          │  +--ro peer-prefix-high?           uint64
      │          │  +--ro peer-prefix-low?            uint64
      │          │  +--ro peer-perfix-ave?            uint64
      │          │  +--ro peer-prefix-time?           uint64
      │          │  +--ro peer-prefix-max?            uint64
      │          │  +--ro publish-version?            uint64
      │        +--rw bgp-rib-in
      │        │  +--rw bgp-rib-in-list* [ipv4-route ipv4-prefix-length]
      │        │     +--rw ipv4-route            inet:ipv4-prefix
      │        │     +--rw ipv4-prefix-length    uint8
      │        │     +--rw bgp-route-type?       enumeration
      │        │     +--rw route-admin-distance  uint16
      │        │     +--rw bgp-attribute-list
      │        │     │  +--rw bgp-origin?           enumeration
      │        │     │  +--rw bgp-aspath
      │        │     │  │  +--rw usascount?       uint16
      │        │     │  │  +--rw ulrefcount?      uint16
      │        │     │  │  +--rw asstring?        string
      │        │     │  │  +--ro usascountfrcomp? uint16
      │        │     │  │  +--rw usastotalcount?  uint16
      │        │     │  │  +--rw usas4pathlen?    uint16
      │        │     │  │  +--rw as4pathvalue?    string
```

```
        │    │       │  +--rw bgp-nexthop?             inet:ip-address
        │    │       │  +--rw bgp-med?                 uint32
        │    │       │  +--rw bgp-localpref?           uint32
        │    │       │  +--rw bgp-atomic-aggregate?    uint32
        │    │       │  +--rw bgp-aggregator
        │    │       │  │  +--rw ulipaddress?   uint32
        │    │       │  │  +--rw ulasnumber?    uint32
        │    │       │  +--rw bgp-commattr
        │    │       │  │  +--rw uscommsize?        uint16
        │    │       │  │  +--rw ulrefcomm?         uint32
        │    │       │  │  +--rw commattr-value?    string
        │    │       │  +--rw bgp-extcommattr
        │    │       │  │  +--rw custom-community
        │    │       │  │  │  +--rw valid           boolean
        │    │       │  │  │  +--rw insertion-point uint32
        │    │       │  │  │  +--rw community-id    uint8
        │    │       │  │  │  +--rw cost-id         uint32
        │    │       │  │  +--rw usextcommsize?       uint16
        │    │       │  │  +--rw ulrefcount?          uint32
        │    │       │  │  +--rw extcommattr-value? string
        │    │       │  +--rw bgp-clusterlist
        │    │       │  │  +--rw uscluslen?         uint16
        │    │       │  │  +--rw ulrefclus?         uint32
        │    │       │  │  +--rw clusterlist-value? string
        │    │       │  +--rw bgp-originator-id?     uint32
        │    │     +--ro bgp-route-create?     enumeration
        │    │     +--ro bgp-rt-state-info
        │    │       +--ro rib-current-state?      rib-state-def
        │    │       +--ro rib-last-state?         rib-state-def
        │    │       +--ro rib-rejected-reason?    enumeration
        │    │       +--ro not-preferred-reason?   enumeration
        │  +--rw bgp-rib-out
        │     +--rw bgp-rib-out-list* [ipv4-route ipv4-prefix-length]
        │       +--rw ipv4-route               inet:ipv4-prefix
        │       +--rw ipv4-prefix-length       uint8
        │       +--rw bgp-route-type?          enumeration
        │       +--rw route-admin-distance     uint16
        │       +--rw bgp-attribute-list
        │       │  +--rw bgp-origin?               enumeration
        │       │  +--rw bgp-aspath
        │       │  │  +--rw usascount?        uint16
        │       │  │  +--rw ulrefcount?       uint16
        │       │  │  +--rw asstring?         string
        │       │  │  +--ro usascountfrcomp?  uint16
        │       │  │  +--rw usastotalcount?   uint16
        │       │  │  +--rw usas4pathlen?     uint16
        │       │  │  +--rw as4pathvalue?     string
        │       │  +--rw bgp-nexthop?   inet:ip-address
```

```
      |           |   +--rw bgp-med?                  uint32
      |           |   +--rw bgp-localpref?            uint32
      |           |   +--rw bgp-atomic-aggregate?     uint32
      |           |   +--rw bgp-aggregator
      |           |   |   +--rw ulipaddress?    uint32
      |           |   |   +--rw ulasnumber?     uint32
      |           |   +--rw bgp-commattr
      |           |   |   +--rw uscommsize?           uint16
      |           |   |   +--rw ulrefcomm?            uint32
      |           |   |   +--rw commattr-value?    string
      |           |   +--rw bgp-extcommattr
      |           |   |   +--rw custom-community
      |           |   |   |   +--rw valid               boolean
      |           |   |   |   +--rw insertion-point uint32
      |           |   |   |   +--rw community-id    uint8
      |           |   |   |   +--rw cost-id         uint32
      |           |   |   +--rw usextcommsize?        uint16
      |           |   |   +--rw ulrefcount?           uint32
      |           |   |   +--rw extcommattr-value?   string
      |           |   +--rw bgp-clusterlist
      |           |   |   +--rw uscluslen?            uint16
      |           |   |   +--rw ulrefclus?            uint32
      |           |   |   +--rw clusterlist-value?   string
      |           |   +--rw bgp-originator-id?        uint32
      |         +--ro bgp-route-create?     enumeration
      |         +--ro bgp-rt-state-info
      |            +--ro rib-current-state?       rib-state-def
      |            +--ro rib-last-state?          rib-state-def
      |            +--ro rib-rejected-reason?     enumeration
      |            +--ro not-preferred-reason?    enumeration
      +--rw bgp-labeled-ipv4-instance
      |   +--rw bgp-instance-name?      string
      |   +--rw bgp-instance-create?    enumeration
      |   +--rw bgp-instance-type?      enumeration
      |   +--rw bgp-vendor-type?        enumeration
      |   +--rw afi?                    afi-def
      |   +--rw safi?                   safi-def
      |   +--rw bgp-local-rib
      |   |   +--rw bgp-route-list*
      |   |         [ipv4-route ipv4-prefix-length mpls-label]
      |   |      +--rw ipv4-route            inet:ipv4-prefix
      |   |      +--rw ipv4-prefix-length    uint8
      |   |      +--rw mpls-label            mpls-label-def
      |   |      +--rw bgp-route-type?       enumeration
      |   |      +--rw route-admin-distance  uint16
      |   |      +--rw bgp-attribute-list
      |   |      |   +--rw bgp-origin?               enumeration
      |   |      |   +--rw bgp-aspath
```

```
│ │     │ │ │   +--rw usascount?         uint16
│ │     │ │ │   +--rw ulrefcount?        uint16
│ │     │ │ │   +--rw asstring?          string
│ │     │ │ │   +--ro usascountfrcomp?   uint16
│ │     │ │ │   +--rw usastotalcount?    uint16
│ │     │ │ │   +--rw usas4pathlen?      uint16
│ │     │ │ │   +--rw as4pathvalue?      string
│ │     │   +--rw bgp-nexthop?            inet:ip-address
│ │     │   +--rw bgp-med?                uint32
│ │     │   +--rw bgp-localpref?          uint32
│ │     │   +--rw bgp-atomic-aggregate?   uint32
│ │     │   +--rw bgp-aggregator
│ │     │   │   +--rw ulipaddress?   uint32
│ │     │   │   +--rw ulasnumber?    uint32
│ │     │   +--rw bgp-commattr
│ │     │   │   +--rw uscommsize?        uint16
│ │     │   │   +--rw ulrefcomm?         uint32
│ │     │   │   +--rw commattr-value?    string
│ │     │   +--rw bgp-extcommattr
│ │     │   │   +--rw custom-community
│ │     │   │   │   +--rw valid            boolean
│ │     │   │   │   +--rw insertion-point  uint32
│ │     │   │   │   +--rw community-id     uint8
│ │     │   │   │   +--rw cost-id          uint32
│ │     │   │   +--rw usextcommsize?     uint16
│ │     │   │   +--rw ulrefcount?        uint32
│ │     │   │   +--rw extcommattr-value?    string
│ │     │   +--rw bgp-clusterlist
│ │     │   │   +--rw uscluslen?           uint16
│ │     │   │   +--rw ulrefclus?           uint32
│ │     │   │   +--rw clusterlist-value?   string
│ │     │   +--rw bgp-originator-id?     uint32
│ │     +--ro bgp-route-create?    enumeration
│ │     +--ro bgp-rt-state-info
│ │        +--ro rib-current-state?     rib-state-def
│ │        +--ro rib-last-state?        rib-state-def
│ │        +--ro rib-rejected-reason?   enumeration
│ │        +--ro not-preferred-reason?  enumeration
│ +--rw bgp-peer-list* [bgp-peer-name]
│    +--rw peer-session-address
│    │   +--rw local-ipv4-address?    inet:ipv4-prefix
│    │   +--rw remote-ipv4-address?   inet:ipv4-prefix
│    +--rw bgp-peer-name              string
│    +--ro bgp-peer-type?             enumeration
│    +--ro bgp-peer-create?           enumeration
│    +--rw bgp-policy-in
│    +--rw bgp-policy-out
│    +--ro peer-policy-in-pset
```

```
        |          +--ro peer-policy-out-pset
        |          +--rw peer-state-info
        |          |  +--ro peer-current-state?        peer-state
        |          |  +--ro peer-last-state?           peer-state
        |          |  +--ro peer-down-reason
        |          |  |  +--ro error-code?       enumeration
        |          |  |  +--ro sub-error-code
        |          |  |     +--ro (sub-error-code-type)?
        |          |  |        +--:(head-error-sub-code)
        |          |  |        |  +--ro head-error-sub-value? enumeration
        |          |  |        +--:(open-error-sub-code)
        |          |  |        |  +--ro open-error-sub-value? enumeration
        |          |  |        +--:(update-error-sub-code)
        |          |  |        |  +--ro update-error-sub-value? enumeration
        |          |  |        +--:(route-refresh-error-sub-code)
        |          |  |           +--ro route-refresh-error-sub-value?
        |          |  |                                    enumeration
        |          |  +--ro peer-received-update-cnt?   uint64
        |          |  +--ro peer-transmit-update-cnt?   uint64
        |          |  +--ro peer-received-route-cnt?    uint64
        |          |  +--ro peer-send-route-cnt?        uint64
        |          |  +--rw max-prefix-rcv-limit?       uint64
        |          |  +--rw max-prefix-xmt-limit?       uint64
        |          |  +--ro peer-prefix-high?           uint64
        |          |  +--ro peer-prefix-low?            uint64
        |          |  +--ro peer-perfix-ave?            uint64
        |          |  +--ro peer-prefix-time?           uint64
        |          |  +--ro peer-prefix-max?            uint64
        |          |  +--ro publish-version?            uint64
        |          +--rw bgp-rib-in
        |          |  +--rw bgp-rib-in-list*
        |          |        [ipv4-route ipv4-prefix-length mpls-label]
        |          |     +--rw ipv4-route              inet:ipv4-prefix
        |          |     +--rw ipv4-prefix-length      uint8
        |          |     +--rw mpls-label              mpls-label-def
        |          |     +--rw bgp-route-type?         enumeration
        |          |     +--rw route-admin-distance    uint16
        |          |     +--rw bgp-attribute-list
        |          |     |  +--rw bgp-origin?             enumeration
        |          |     |  +--rw bgp-aspath
        |          |     |  |  +--rw usascount?        uint16
        |          |     |  |  +--rw ulrefcount?       uint16
        |          |     |  |  +--rw asstring?         string
        |          |     |  |  +--ro usascountfrcomp?  uint16
        |          |     |  |  +--rw usastotalcount?   uint16
        |          |     |  |  +--rw usas4pathlen?     uint16
        |          |     |  |  +--rw as4pathvalue?     string
        |          |     |  +--rw bgp-nexthop?            inet:ip-address
```

```
│   │     │   │ +--rw bgp-med?                  uint32
│   │     │   │ +--rw bgp-localpref?            uint32
│   │     │   │ +--rw bgp-atomic-aggregate?     uint32
│   │     │   │ +--rw bgp-aggregator
│   │     │   │ │  +--rw ulipaddress?   uint32
│   │     │   │ │  +--rw ulasnumber?    uint32
│   │     │   │ +--rw bgp-commattr
│   │     │   │ │  +--rw uscommsize?        uint16
│   │     │   │ │  +--rw ulrefcomm?         uint32
│   │     │   │ │  +--rw commattr-value?    string
│   │     │   │ +--rw bgp-extcommattr
│   │     │   │ │  +--rw custom-community
│   │     │   │ │  │  +--rw valid           boolean
│   │     │   │ │  │  +--rw insertion-point uint32
│   │     │   │ │  │  +--rw community-id    uint8
│   │     │   │ │  │  +--rw cost-id         uint32
│   │     │   │ │  +--rw usextcommsize?      uint16
│   │     │   │ │  +--rw ulrefcount?         uint32
│   │     │   │ │  +--rw extcommattr-value?  string
│   │     │   │ +--rw bgp-clusterlist
│   │     │   │ │  +--rw uscluslen?          uint16
│   │     │   │ │  +--rw ulrefclus?          uint32
│   │     │   │ │  +--rw clusterlist-value?  string
│   │     │   │ +--rw bgp-originator-id?       uint32
│   │     +--ro bgp-route-create?     enumeration
│   │     +--ro bgp-rt-state-info
│   │        +--ro rib-current-state?       rib-state-def
│   │        +--ro rib-last-state?          rib-state-def
│   │        +--ro rib-rejected-reason?     enumeration
│   │        +--ro not-preferred-reason?    enumeration
│   +--rw bgp-rib-out
│      +--rw bgp-rib-out-list*
│         [ipv4-route ipv4-prefix-length mpls-label]
│         +--rw ipv4-route             inet:ipv4-prefix
│         +--rw ipv4-prefix-length     uint8
│         +--rw mpls-label             mpls-label-def
│         +--rw bgp-route-type?        enumeration
│         +--rw route-admin-distance   uint16
│         +--rw bgp-attribute-list
│            │  +--rw bgp-origin?         enumeration
│            │  +--rw bgp-aspath
│            │  │  +--rw usascount?       uint16
│            │  │  +--rw ulrefcount?      uint16
│            │  │  +--rw asstring?        string
│            │  │  +--ro usascountfrcomp? uint16
│            │  │  +--rw usastotalcount?  uint16
│            │  │  +--rw usas4pathlen?    uint16
│            │  │  +--rw as4pathvalue?    string
```

```
      │            │  +--rw bgp-nexthop?              inet:ip-address
      │            │  +--rw bgp-med?                  uint32
      │            │  +--rw bgp-localpref?            uint32
      │            │  +--rw bgp-atomic-aggregate?     uint32
      │            │  +--rw bgp-aggregator
      │            │  │  +--rw ulipaddress?   uint32
      │            │  │  +--rw ulasnumber?    uint32
      │            │  +--rw bgp-commattr
      │            │  │  +--rw uscommsize?       uint16
      │            │  │  +--rw ulrefcomm?        uint32
      │            │  │  +--rw commattr-value?   string
      │            │  +--rw bgp-extcommattr
      │            │  │  +--rw custom-community
      │            │  │  │  +--rw valid            boolean
      │            │  │  │  +--rw insertion-point uint32
      │            │  │  │  +--rw community-id    uint8
      │            │  │  │  +--rw cost-id         uint32
      │            │  │  +--rw usextcommsize?      uint16
      │            │  │  +--rw ulrefcount?         uint32
      │            │  │  +--rw extcommattr-value? string
      │            │  +--rw bgp-clusterlist
      │            │  │  +--rw uscluslen?          uint16
      │            │  │  +--rw ulrefclus?          uint32
      │            │  │  +--rw clusterlist-value? string
      │            │  +--rw bgp-originator-id?    uint32
      │          +--ro bgp-route-create?      enumeration
      │          +--ro bgp-rt-state-info
      │              +--ro rib-current-state?  rib-state-def
      │              +--ro rib-last-state?     rib-state-def
      │              +--ro rib-rejected-reason?   enumeration
      │              +--ro not-preferred-reason? enumeration
      +--rw bgp-ipv4-multi-instance
      │  +--rw bgp-instance-name?     string
      │  +--rw bgp-instance-create?   enumeration
      │  +--rw bgp-instance-type?     enumeration
      │  +--rw bgp-vendor-type?       enumeration
      │  +--rw afi?                   afi-def
      │  +--rw safi?                  safi-def
      │  +--rw bgp-local-rib
      │  │  +--rw bgp-route-list* [ipv4-route ipv4-prefix-length]
      │  │      +--rw ipv4-route             inet:ipv4-prefix
      │  │      +--rw ipv4-prefix-length     uint8
      │  │      +--rw bgp-route-type?        enumeration
      │  │      +--rw route-admin-distance   uint16
      │  │      +--rw bgp-attribute-list
      │  │      │  +--rw bgp-origin?              enumeration
      │  │      │  +--rw bgp-aspath
      │  │      │  │  +--rw usascount?             uint16
```

```
      │  │      │   │  +--rw ulrefcount?         uint16
      │  │      │   │  +--rw asstring?           string
      │  │      │   │  +--ro usascountfrcomp?    uint16
      │  │      │   │  +--rw usastotalcount?     uint16
      │  │      │   │  +--rw usas4pathlen?       uint16
      │  │      │   │  +--rw as4pathvalue?       string
      │  │      │  +--rw bgp-nexthop?            inet:ip-address
      │  │      │  +--rw bgp-med?                uint32
      │  │      │  +--rw bgp-localpref?          uint32
      │  │      │  +--rw bgp-atomic-aggregate?   uint32
      │  │      │  +--rw bgp-aggregator
      │  │      │  │  +--rw ulipaddress?   uint32
      │  │      │  │  +--rw ulasnumber?    uint32
      │  │      │  +--rw bgp-commattr
      │  │      │  │  +--rw uscommsize?         uint16
      │  │      │  │  +--rw ulrefcomm?          uint32
      │  │      │  │  +--rw commattr-value?     string
      │  │      │  +--rw bgp-extcommattr
      │  │      │  │  +--rw custom-community
      │  │      │  │  │  +--rw valid              boolean
      │  │      │  │  │  +--rw community-id       uint8
      │  │      │  │  │  +--rw insertion-point    uint32
      │  │      │  │  │  +--rw cost-id            uint32
      │  │      │  │  +--rw usextcommsize?      uint16
      │  │      │  │  +--rw ulrefcount?         uint32
      │  │      │  │  +--rw extcommattr-value?  string
      │  │      │  +--rw bgp-clusterlist
      │  │      │  │  +--rw uscluslen?          uint16
      │  │      │  │  +--rw ulrefclus?          uint32
      │  │      │  │  +--rw clusterlist-value?  string
      │  │      │  +--rw bgp-originator-id?      uint32
      │  │    +--ro bgp-route-create?    enumeration
      │  │    +--ro bgp-rt-state-info
      │  │       +--ro rib-current-state?     rib-state-def
      │  │       +--ro rib-last-state?        rib-state-def
      │  │       +--ro rib-rejected-reason?   enumeration
      │  │       +--ro not-preferred-reason?  enumeration
      │  +--rw bgp-peer-list* [bgp-peer-name]
      │     +--rw peer-session-address
      │     │  +--rw local-ipv4-address?    inet:ipv4-prefix
      │     │  +--rw remote-ipv4-address?   inet:ipv4-prefix
      │     +--rw bgp-peer-name              string
      │     +--ro bgp-peer-type?             enumeration
      │     +--ro bgp-peer-create?           enumeration
      │     +--rw bgp-policy-in
      │     +--rw bgp-policy-out
      │     +--ro peer-policy-in-pset
      │     +--ro peer-policy-out-pset
```

```
     │        +--rw peer-state-info
     │        │  +--ro peer-current-state?       peer-state
     │        │  +--ro peer-last-state?          peer-state
     │        │  +--ro peer-down-reason
     │        │  │  +--ro error-code?       enumeration
     │        │  │  +--ro sub-error-code
     │        │  │     +--ro (sub-error-code-type)?
     │        │  │        +--:(head-error-sub-code)
     │        │  │        │  +--ro head-error-sub-value? enumeration
     │        │  │        +--:(open-error-sub-code)
     │        │  │        │  +--ro open-error-sub-value? enumeration
     │        │  │        +--:(update-error-sub-code)
     │        │  │        │  +--ro update-error-sub-value?
     │        │  │                                   enumeration
     │        │  │        +--:(route-refresh-error-sub-code)
     │        │  │           +--ro route-refresh-error-sub-value?
     │        │  │                                   enumeration
     │        │  +--ro peer-received-update-cnt?   uint64
     │        │  +--ro peer-transmit-update-cnt?   uint64
     │        │  +--ro peer-received-route-cnt?    uint64
     │        │  +--ro peer-send-route-cnt?        uint64
     │        │  +--rw max-prefix-rcv-limit?       uint64
     │        │  +--rw max-prefix-xmt-limit?       uint64
     │        │  +--ro peer-prefix-high?           uint64
     │        │  +--ro peer-prefix-low?            uint64
     │        │  +--ro peer-perfix-ave?            uint64
     │        │  +--ro peer-prefix-time?           uint64
     │        │  +--ro peer-prefix-max?            uint64
     │        │  +--ro publish-version?            uint64
     │        +--rw bgp-rib-in
     │        │  +--rw bgp-rib-in-list* [ipv4-route ipv4-prefix-length]
     │        │     +--rw ipv4-route            inet:ipv4-prefix
     │        │     +--rw ipv4-prefix-length    uint8
     │        │     +--rw bgp-route-type?       enumeration
     │        │     +--rw route-admin-distance  uint16
     │        │     +--rw bgp-attribute-list
     │        │     │  +--rw bgp-origin?             enumeration
     │        │     │  +--rw bgp-aspath
     │        │     │  │  +--rw usascount?        uint16
     │        │     │  │  +--rw ulrefcount?       uint16
     │        │     │  │  +--rw asstring?         string
     │        │     │  │  +--ro usascountfrcomp?  uint16
     │        │     │  │  +--rw usastotalcount?   uint16
     │        │     │  │  +--rw usas4pathlen?     uint16
     │        │     │  │  +--rw as4pathvalue?     string
     │        │     │  +--rw bgp-nexthop?            inet:ip-address
     │        │     │  +--rw bgp-med?                uint32
     │        │     │  +--rw bgp-localpref?          uint32
```

```
│   │       │     +--rw bgp-atomic-aggregate?    uint32
│   │       │   +--rw bgp-aggregator
│   │       │   | +--rw ulipaddress?   uint32
│   │       │   | +--rw ulasnumber?    uint32
│   │       │   +--rw bgp-commattr
│   │       │   | +--rw uscommsize?       uint16
│   │       │   | +--rw ulrefcomm?        uint32
│   │       │   | +--rw commattr-value?   string
│   │       │   +--rw bgp-extcommattr
│   │       │   | +--rw custom-community
│   │       │   | | +--rw valid            boolean
│   │       │   | | +--rw insertion-point uint32
│   │       │   | | +--rw community-id    uint8
│   │       │   | | +--rw cost-id         uint32
│   │       │   | +--rw usextcommsize?       uint16
│   │       │   | +--rw ulrefcount?          uint32
│   │       │   | +--rw extcommattr-value?   string
│   │       │   +--rw bgp-clusterlist
│   │       │   | +--rw uscluslen?          uint16
│   │       │   | +--rw ulrefclus?          uint32
│   │       │   | +--rw clusterlist-value?  string
│   │       │   +--rw bgp-originator-id?      uint32
│   │       +--ro bgp-route-create?     enumeration
│   │       +--ro bgp-rt-state-info
│   │          +--ro rib-current-state?    rib-state-def
│   │          +--ro rib-last-state?       rib-state-def
│   │          +--ro rib-rejected-reason?  enumeration
│   │          +--ro not-preferred-reason? enumeration
│   +--rw bgp-rib-out
│      +--rw bgp-rib-out-list* [ipv4-route ipv4-prefix-length]
│         +--rw ipv4-route             inet:ipv4-prefix
│         +--rw ipv4-prefix-length     uint8
│         +--rw bgp-route-type?        enumeration
│         +--rw route-admin-distance   uint16
│         +--rw bgp-attribute-list
│         | +--rw bgp-origin?               enumeration
│         | +--rw bgp-aspath
│         | | +--rw usascount?        uint16
│         | | +--rw ulrefcount?       uint16
│         | | +--rw asstring?         string
│         | | +--ro usascountfrcomp?  uint16
│         | | +--rw usastotalcount?   uint16
│         | | +--rw usas4pathlen?     uint16
│         | | +--rw as4pathvalue?     string
│         | +--rw bgp-nexthop?   inet:ip-address
│         | +--rw bgp-med?                  uint32
│         | +--rw bgp-localpref?            uint32
│         | +--rw bgp-atomic-aggregate?     uint32
```

```
   |              |  +--rw bgp-aggregator
   |              |  |  +--rw ulipaddress?    uint32
   |              |  |  +--rw ulasnumber?     uint32
   |              |  +--rw bgp-commattr
   |              |  |  +--rw uscommsize?       uint16
   |              |  |  +--rw ulrefcomm?        uint32
   |              |  |  +--rw commattr-value?   string
   |              |  +--rw bgp-extcommattr
   |              |  |  +--rw custom-community
   |              |  |  |  +--rw valid            boolean
   |              |  |  |  +--rw insertion-point uint32
   |              |  |  |  +--rw community-id    uint8
   |              |  |  |  +--rw cost-id         uint32
   |              |  |  +--rw usextcommsize?     uint16
   |              |  |  +--rw ulrefcount?        uint32
   |              |  |  +--rw extcommattr-value?  string
   |              |  +--rw bgp-clusterlist
   |              |  |  +--rw uscluslen?        uint16
   |              |  |  +--rw ulrefclus?        uint32
   |              |  |  +--rw clusterlist-value?  string
   |              |  +--rw bgp-originator-id?    uint32
   |           +--ro bgp-route-create?     enumeration
   |           +--ro bgp-rt-state-info
   |              +--ro rib-current-state?     rib-state-def
   |              +--ro rib-last-state?        rib-state-def
   |              +--ro rib-rejected-reason?   enumeration
   |              +--ro not-preferred-reason?  enumeration
   +--rw bgp-vpnv4-instance
   |  +--rw bgp-instance-name?     string
   |  +--rw bgp-instance-create?   enumeration
   |  +--rw bgp-instance-type?     enumeration
   |  +--rw bgp-vendor-type?       enumeration
   |  +--rw afi?                   afi-def
   |  +--rw safi?                  safi-def
   |  +--rw bgp-local-rib
   |  |  +--rw bgp-route-list*
   |         [ipv4-route ipv4-prefix-length route-distinguisher]
   |  |     +--rw ipv4-route              inet:ipv4-prefix
   |  |     +--rw ipv4-prefix-length     uint8
   |  |     +--rw mpls-label?            mpls-label-def
   |  |     +--rw route-distinguisher route-distinguisher-def
   |  |     +--rw bgp-route-type?        enumeration
   |  |     +--rw route-admin-distance  uint16
   |  |     +--rw bgp-attribute-list
   |  |     |  +--rw bgp-origin?               enumeration
   |  |     |  +--rw bgp-aspath
   |  |     |  |  +--rw usascount?        uint16
   |  |     |  |  +--rw ulrefcount?       uint16
```

```
│  │          │  │  +--rw asstring?            string
│  │          │  │  +--ro usascountfrcomp?     uint16
│  │          │  │  +--rw usastotalcount?      uint16
│  │          │  │  +--rw usas4pathlen?        uint16
│  │          │  │  +--rw as4pathvalue?        string
│  │          │  +--rw bgp-nexthop?            inet:ip-address
│  │          │  +--rw bgp-med?                uint32
│  │          │  +--rw bgp-localpref?          uint32
│  │          │  +--rw bgp-atomic-aggregate?   uint32
│  │          │  +--rw bgp-aggregator
│  │          │  │  +--rw ulipaddress?   uint32
│  │          │  │  +--rw ulasnumber?    uint32
│  │          │  +--rw bgp-commattr
│  │          │  │  +--rw uscommsize?          uint16
│  │          │  │  +--rw ulrefcomm?           uint32
│  │          │  │  +--rw commattr-value?      string
│  │          │  +--rw bgp-extcommattr
│  │          │  │  +--rw custom-community
│  │          │  │  │  +--rw valid              boolean
│  │          │  │  │  +--rw insertion-point uint32
│  │          │  │  │  +--rw community-id       uint8
│  │          │  │  │  +--rw cost-id            uint32
│  │          │  │  +--rw usextcommsize?    uint16
│  │          │  │  +--rw ulrefcount?       uint32
│  │          │  │  +--rw extcommattr-value? string
│  │          │  +--rw bgp-clusterlist
│  │          │  │  +--rw uscluslen?           uint16
│  │          │  │  +--rw ulrefclus?           uint32
│  │          │  │  +--rw clusterlist-value? string
│  │          │  +--rw bgp-originator-id?    uint32
│  │       +--ro bgp-route-create?         enumeration
│  │       +--ro bgp-rt-state-info
│  │          +--ro rib-current-state?   rib-state-def
│  │          +--ro rib-last-state?      rib-state-def
│  │          +--ro rib-rejected-reason?  enumeration
│  │          +--ro not-preferred-reason? enumeration
│  +--rw bgp-peer-list* [bgp-peer-name]
│     +--rw peer-session-address
│     │  +--rw local-ipv4-address?   inet:ipv4-prefix
│     │  +--rw remote-ipv4-address?  inet:ipv4-prefix
│     +--rw bgp-peer-name              string
│     +--ro bgp-peer-type?            enumeration
│     +--ro bgp-peer-create?          enumeration
│     +--rw bgp-policy-in             policy-group-name
│     +--rw bgp-policy-out            policy-group-name
│     +--ro peer-policy-in-pset       policy-set-name
│     +--ro peer-policy-out-pset      policy-set-name
│     +--rw peer-state-info
```

```
      │      │   +--ro peer-current-state?          peer-state
      │      │   +--ro peer-last-state?             peer-state
      │      │   +--ro peer-down-reason
      │      │   │  +--ro error-code?        enumeration
      │      │   │  +--ro sub-error-code
      │      │   │     +--ro (sub-error-code-type)?
      │      │   │        +--:(head-error-sub-code)
      │      │   │        │  +--ro head-error-sub-value? enumeration
      │      │   │        +--:(open-error-sub-code)
      │      │   │        │  +--ro open-error-sub-value? enumeration
      │      │   │        +--:(update-error-sub-code)
      │      │   │        │  +--ro update-error-sub-value?
      │      │   │        │                        enumeration
      │      │   │        +--:(route-refresh-error-sub-code)
      │      │   │           +--ro route-refresh-error-sub-value?
      │      │   │                                 enumeration
      │      │   +--ro peer-received-update-cnt?   uint64
      │      │   +--ro peer-transmit-update-cnt?   uint64
      │      │   +--ro peer-received-route-cnt?    uint64
      │      │   +--ro peer-send-route-cnt?        uint64
      │      │   +--rw max-prefix-rcv-limit?       uint64
      │      │   +--rw max-prefix-xmt-limit?       uint64
      │      │   +--ro peer-prefix-high?           uint64
      │      │   +--ro peer-prefix-low?            uint64
      │      │   +--ro peer-perfix-ave?            uint64
      │      │   +--ro peer-prefix-time?           uint64
      │      │   +--ro peer-prefix-max?            uint64
      │      │   +--ro publish-version?            uint64
      │      +--rw bgp-rib-in
      │      │  +--rw bgp-rib-in-list*
      │         [ipv4-route ipv4-prefix-length route-distinguisher]
      │      │     +--rw ipv4-route              inet:ipv4-prefix
      │      │     +--rw ipv4-prefix-length      uint8
      │      │     +--rw mpls-label?             mpls-label-def
      │      │     +--rw route-distinguisher route-distinguisher-def
      │      │     +--rw bgp-route-type?         enumeration
      │      │     +--rw route-admin-distance    uint16
      │      │     +--rw bgp-attribute-list
      │      │     │  +--rw bgp-origin?             enumeration
      │      │     │  +--rw bgp-aspath
      │      │     │  │  +--rw usascount?        uint16
      │      │     │  │  +--rw ulrefcount?       uint16
      │      │     │  │  +--rw asstring?         string
      │      │     │  │  +--ro usascountfrcomp?  uint16
      │      │     │  │  +--rw usastotalcount?   uint16
      │      │     │  │  +--rw usas4pathlen?     uint16
      │      │     │  │  +--rw as4pathvalue?     string
      │      │     │  +--rw bgp-nexthop    inet:ip-address
```

```
  │   │       │   +--rw bgp-med?                 uint32
  │   │       │   +--rw bgp-localpref?           uint32
  │   │       │   +--rw bgp-atomic-aggregate?    uint32
  │   │       │   +--rw bgp-aggregator
  │   │       │   │  +--rw ulipaddress?   uint32
  │   │       │   │  +--rw ulasnumber?    uint32
  │   │       │   +--rw bgp-commattr
  │   │       │   │  +--rw uscommsize?        uint16
  │   │       │   │  +--rw ulrefcomm?         uint32
  │   │       │   │  +--rw commattr-value?    string
  │   │       │   +--rw bgp-extcommattr
  │   │       │   │  +--rw custom-community
  │   │       │   │  │   +--rw valid            boolean
  │   │       │   │  │   +--rw insertion-point  uint32
  │   │       │   │  │   +--rw community-id     uint8
  │   │       │   │  │   +--rw cost-id          uint32
  │   │       │   │  +--rw usextcommsize?       uint16
  │   │       │   │  +--rw ulrefcount?          uint32
  │   │       │   │  +--rw extcommattr-value?   string
  │   │       │   +--rw bgp-clusterlist
  │   │       │   │  +--rw uscluslen?         uint16
  │   │       │   │  +--rw ulrefclus?         uint32
  │   │       │   │  +--rw clusterlist-value? string
  │   │       │   +--rw bgp-originator-id?   uint32
  │   │       +--ro bgp-route-create?       enumeration
  │   │       +--ro bgp-rt-state-info
  │   │          +--ro rib-current-state?    rib-state-def
  │   │          +--ro rib-last-state?       rib-state-def
  │   │          +--ro rib-rejected-reason?  enumeration
  │   │          +--ro not-preferred-reason? enumeration
  │   +--rw bgp-rib-out
  │      +--rw bgp-rib-out-list*
  │         [ipv4-route ipv4-prefix-length route-distinguisher]
  │         +--rw ipv4-route                inet:ipv4-prefix
  │         +--rw ipv4-prefix-length        uint8
  │         +--rw mpls-label?               mpls-label-def
  │         +--rw route-distinguisher route-distinguisher-def
  │         +--rw bgp-route-type?           enumeration
  │         +--rw route-admin-distance      uint16
  │         +--rw bgp-attribute-list
  │         │  +--rw bgp-origin?           enumeration
  │         │  +--rw bgp-aspath
  │         │  │  +--rw usascount?         uint16
  │         │  │  +--rw ulrefcount?        uint16
  │         │  │  +--rw asstring?          string
  │         │  │  +--ro usascountfrcomp?   uint16
  │         │  │  +--rw usastotalcount?    uint16
  │         │  │  +--rw usas4pathlen?      uint16
```

```
  │                 │   │  +--rw as4pathvalue?       string
  │                 │ +--rw bgp-nexthop?    inet:ip-address
  │                 │ +--rw bgp-med?               uint32
  │                 │ +--rw bgp-localpref?         uint32
  │                 │ +--rw bgp-atomic-aggregate? uint32
  │                 │ +--rw bgp-aggregator
  │                 │ │  +--rw ulipaddress?   uint32
  │                 │ │  +--rw ulasnumber?    uint32
  │                 │ +--rw bgp-commattr
  │                 │ │  +--rw uscommsize?        uint16
  │                 │ │  +--rw ulrefcomm?         uint32
  │                 │ │  +--rw commattr-value?    string
  │                 │ +--rw bgp-extcommattr
  │                 │ │  +--rw custom-community
  │                 │ │  │  +--rw valid            boolean
  │                 │ │  │  +--rw insertion-point uint32
  │                 │ │  │  +--rw community-id    uint8
  │                 │ │  │  +--rw cost-id         uint32
  │                 │ │  +--rw usextcommsize?     uint16
  │                 │ │  +--rw ulrefcount?        uint32
  │                 │ │  +--rw extcommattr-value? string
  │                 │ +--rw bgp-clusterlist
  │                 │ │  +--rw uscluslen?         uint16
  │                 │ │  +--rw ulrefclus?         uint32
  │                 │ │  +--rw clusterlist-value? string
  │                 │ +--rw bgp-originator-id?    uint32
  │              +--ro bgp-route-create?    enumeration
  │              +--ro bgp-rt-state-info
  │                 +--ro rib-current-state?      rib-state-def
  │                 +--ro rib-last-state?         rib-state-def
  │                 +--ro rib-rejected-reason?    enumeration
  │                 +--ro not-preferred-reason?   enumeration
  +--rw bgp-ipv4-l3vpn-instance-list* [bgp-l3vpn-instance-name]
  │  +--rw bgp-l3vpn-instance-name    string
  │  +--rw bgp-instance-name?         string
  │  +--rw bgp-instance-create?       enumeration
  │  +--rw bgp-instance-type?         enumeration
  │  +--rw bgp-vendor-type?           enumeration
  │  +--rw afi?                       afi-def
  │  +--rw safi?                      safi-def
  │  +--rw bgp-local-rib
  │  │  +--rw bgp-route-list* [ipv4-route ipv4-prefix-length]
  │  │     +--rw ipv4-route              inet:ipv4-prefix
  │  │     +--rw ipv4-prefix-length   uint8
  │  │     +--rw bgp-route-type?      enumeration
  │  │     +--rw route-admin-distance uint16
  │  │     +--rw bgp-attribute-list
  │  │     │  +--rw bgp-origin?          enumeration
```

```
│  │       │   +--rw bgp-aspath
│  │       │   │ +--rw usascount?         uint16
│  │       │   │ +--rw ulrefcount?        uint16
│  │       │   │ +--rw asstring?          string
│  │       │   │ +--ro usascountfrcomp?   uint16
│  │       │   │ +--rw usastotalcount?    uint16
│  │       │   │ +--rw usas4pathlen?      uint16
│  │       │   │ +--rw as4pathvalue?      string
│  │       │   +--rw bgp-nexthop?    inet:ip-address
│  │       │   +--rw bgp-med?             uint32
│  │       │   +--rw bgp-localpref?       uint32
│  │       │   +--rw bgp-atomic-aggregate? uint32
│  │       │   +--rw bgp-aggregator
│  │       │   │ +--rw ulipaddress?    uint32
│  │       │   │ +--rw ulasnumber?     uint32
│  │       │   +--rw bgp-commattr
│  │       │   │ +--rw uscommsize?        uint16
│  │       │   │ +--rw ulrefcomm?         uint32
│  │       │   │ +--rw commattr-value?    string
│  │       │   +--rw bgp-extcommattr
│  │       │   │ +--rw custom-community
│  │       │   │ │ +--rw valid           boolean
│  │       │   │ │ +--rw insertion-point uint32
│  │       │   │ │ +--rw community-id    uint8
│  │       │   │ │ +--rw cost-id         uint32
│  │       │   │ +--rw usextcommsize?     uint16
│  │       │   │ +--rw ulrefcount?        uint32
│  │       │   │ +--rw extcommattr-value? string
│  │       │   +--rw bgp-clusterlist
│  │       │   │ +--rw uscluslen?         uint16
│  │       │   │ +--rw ulrefclus?         uint32
│  │       │   │ +--rw clusterlist-value? string
│  │       │   +--rw bgp-originator-id?   uint32
│  │       +--ro bgp-route-create?    enumeration
│  │       +--ro bgp-rt-state-info
│  │          +--ro rib-current-state?     rib-state-def
│  │          +--ro rib-last-state?        rib-state-def
│  │          +--ro rib-rejected-reason?   enumeration
│  │          +--ro not-preferred-reason?  enumeration
│  +--rw bgp-peer-list* [bgp-peer-name]
│     +--rw peer-session-address
│     │ +--rw local-ipv4-address?   inet:ipv4-prefix
│     │ +--rw remote-ipv4-address?  inet:ipv4-prefix
│     +--rw bgp-peer-name          string
│     +--ro bgp-peer-type?         enumeration
│     +--ro bgp-peer-create?       enumeration
│     +--rw bgp-policy-in
│     +--rw bgp-policy-out
```

```
         │           +--ro peer-policy-in-pset
         │           +--ro peer-policy-out-pset
         │           +--rw peer-state-info
         │           │  +--ro peer-current-state?        peer-state
         │           │  +--ro peer-last-state?           peer-state
         │           │  +--ro peer-down-reason
         │           │  │  +--ro error-code?      enumeration
         │           │  │  +--ro sub-error-code
         │           │  │     +--ro (sub-error-code-type)?
         │           │  │        +--:(head-error-sub-code)
         │           │  │        │  +--ro head-error-sub-value? enumeration
         │           │  │        +--:(open-error-sub-code)
         │           │  │        │  +--ro open-error-sub-value? enumeration
         │           │  │        +--:(update-error-sub-code)
         │           │  │        │  +--ro update-error-sub-value?
         │           │  │                                  enumeration
         │       │   │        +--:(route-refresh-error-sub-code)
         │       │   │           +--ro route-refresh-error-sub-value?
         │                                                enumeration
         │       │   +--ro peer-received-update-cnt?   uint64
         │       │   +--ro peer-transmit-update-cnt?   uint64
         │       │   +--ro peer-received-route-cnt?    uint64
         │       │   +--ro peer-send-route-cnt?        uint64
         │       │   +--rw max-prefix-rcv-limit?       uint64
         │       │   +--rw max-prefix-xmt-limit?       uint64
         │       │   +--ro peer-prefix-high?           uint64
         │       │   +--ro peer-prefix-low?            uint64
         │       │   +--ro peer-perfix-ave?            uint64
         │       │   +--ro peer-prefix-time?           uint64
         │       │   +--ro peer-prefix-max?            uint64
         │       │   +--ro publish-version?            uint64
         │       +--rw bgp-rib-in
         │       │  +--rw bgp-rib-in-list*
         │       │        [ipv4-route ipv4-prefix-length]
         │       │     +--rw ipv4-route          inet:ipv4-prefix
         │       │     +--rw ipv4-prefix-length  uint8
         │       │     +--rw bgp-route-type?     enumeration
         │       │     +--rw route-admin-distance uint16
         │       │     +--rw bgp-attribute-list
         │       │     │  +--rw bgp-origin?      enumeration
         │       │     │  +--rw bgp-aspath
         │       │     │  │  +--rw usascount?        uint16
         │       │     │  │  +--rw ulrefcount?       uint16
         │       │     │  │  +--rw asstring?         string
         │       │     │  │  +--ro usascountfrcomp?  uint16
         │       │     │  │  +--rw usastotalcount?   uint16
         │       │     │  │  +--rw usas4pathlen?     uint16
         │       │     │  │  +--rw as4pathvalue?     string
```

```
|     |     |   +--rw bgp-nexthop?    inet:ip-address
|     |     |   +--rw bgp-med?                 uint32
|     |     |   +--rw bgp-localpref?           uint32
|     |     |   +--rw bgp-atomic-aggregate?    uint32
|     |     |   +--rw bgp-aggregator
|     |     |   |  +--rw ulipaddress?    uint32
|     |     |   |  +--rw ulasnumber?     uint32
|     |     |   +--rw bgp-commattr
|     |     |   |  +--rw uscommsize?        uint16
|     |     |   |  +--rw ulrefcomm?         uint32
|     |     |   |  +--rw commattr-value?    string
|     |     |   +--rw bgp-extcommattr
|     |     |   |  +--rw custom-community
|     |     |   |  |  +--rw valid            boolean
|     |     |   |  |  +--rw insertion-point uint32
|     |     |   |  |  +--rw community-id    uint8
|     |     |   |  |  +--rw cost-id         uint32
|     |     |   |  +--rw usextcommsize?      uint16
|     |     |   |  +--rw ulrefcount?         uint32
|     |     |   |  +--rw extcommattr-value? string
|     |     |   +--rw bgp-clusterlist
|     |     |   |  +--rw uscluslen?          uint16
|     |     |   |  +--rw ulrefclus?          uint32
|     |     |   |  +--rw clusterlist-value? string
|     |     |   +--rw bgp-originator-id?    uint32
|     |     +--ro bgp-route-create?       enumeration
|     |     +--ro bgp-rt-state-info
|     |        +--ro rib-current-state?    rib-state-def
|     |        +--ro rib-last-state?       rib-state-def
|     |        +--ro rib-rejected-reason?  enumeration
|     |        +--ro not-preferred-reason? enumeration
|     +--rw bgp-rib-out
|        +--rw bgp-rib-out-list* [ipv4-route ipv4-prefix-length]
|           +--rw ipv4-route              inet:ipv4-prefix
|           +--rw ipv4-prefix-length      uint8
|           +--rw bgp-route-type?         enumeration
|           +--rw route-admin-distance    uint16
|           +--rw bgp-attribute-list
|           |  +--rw bgp-origin?          enumeration
|           |  +--rw bgp-aspath
|           |  |  +--rw usascount?        uint16
|           |  |  +--rw ulrefcount?       uint16
|           |  |  +--rw asstring?         string
|           |  |  +--ro usascountfrcomp?  uint16
|           |  |  +--rw usastotalcount?   uint16
|           |  |  +--rw usas4pathlen?     uint16
|           |  |  +--rw as4pathvalue?     string
|           |  +--rw bgp-nexthop?             inet:ip-address
```

```
           |         |  +--rw bgp-med?                  uint32
           |         |  +--rw bgp-localpref?            uint32
           |         |  +--rw bgp-atomic-aggregate?     uint32
           |         |  +--rw bgp-aggregator
           |         |  |  +--rw ulipaddress?   uint32
           |         |  |  +--rw ulasnumber?    uint32
           |         |  +--rw bgp-commattr
           |         |  |  +--rw uscommsize?         uint16
           |         |  |  +--rw ulrefcomm?          uint32
           |         |  |  +--rw commattr-value?     string
           |         |  +--rw bgp-extcommattr
           |         |  |  +--rw custom-community
           |         |  |  |  +--rw valid            boolean
           |         |  |  |  +--rw insertion-point  uint32
           |         |  |  |  +--rw community-id     uint8
           |         |  |  |  +--rw cost-id          uint32
           |         |  |  +--rw usextcommsize?      uint16
           |         |  |  +--rw ulrefcount?         uint32
           |         |  |  +--rw extcommattr-value?  string
           |         |  +--rw bgp-clusterlist
           |         |  |  +--rw uscluslen?          uint16
           |         |  |  +--rw ulrefclus?          uint32
           |         |  |  +--rw clusterlist-value?  string
           |         |  +--rw bgp-originator-id?   uint32
           |      +--ro bgp-route-create?     enumeration
           |      +--ro bgp-rt-state-info
           |         +--ro rib-current-state?   rib-state-def
           |         +--ro rib-last-state?      rib-state-def
           |         +--ro rib-rejected-reason? enumeration
           |         +--ro not-preferred-reason? enumeration
     +--rw bgp-ipv6-uni-instance
     |  +--rw bgp-instance-name?      string
     |  +--rw bgp-instance-create?    enumeration
     |  +--rw bgp-instance-type?      enumeration
     |  +--rw bgp-vendor-type?        enumeration
     |  +--rw afi?                    afi-def
     |  +--rw safi?                   safi-def
     |  +--rw bgp-local-rib
     |  |  +--rw bgp-route-list* [ipv6-route ipv6-prefix-length]
     |  |     +--rw ipv6-route              inet:ipv6-prefix
     |  |     +--rw ipv6-prefix-length      uint8
     |  |     +--rw bgp-route-type?         enumeration
     |  |     +--rw route-admin-distance    uint16
     |  |     +--rw bgp-attribute-list
     |  |     |  +--rw bgp-origin?           enumeration
     |  |     |  +--rw bgp-aspath
     |  |     |  |  +--rw usascount?          uint16
     |  |     |  |  +--rw ulrefcount?         uint16
```

```
│  │        │  │  +--rw asstring?          string
│  │        │  │  +--ro usascountfrcomp?   uint16
│  │        │  │  +--rw usastotalcount?    uint16
│  │        │  │  +--rw usas4pathlen?      uint16
│  │        │  │  +--rw as4pathvalue?      string
│  │        │  +--rw bgp-nexthop?   inet:ip-address
│  │        │  +--rw bgp-med?                uint32
│  │        │  +--rw bgp-localpref?          uint32
│  │        │  +--rw bgp-atomic-aggregate?   uint32
│  │        │  +--rw bgp-aggregator
│  │        │  │  +--rw ulipaddress?   uint32
│  │        │  │  +--rw ulasnumber?    uint32
│  │        │  +--rw bgp-commattr
│  │        │  │  +--rw uscommsize?       uint16
│  │        │  │  +--rw ulrefcomm?        uint32
│  │        │  │  +--rw commattr-value?   string
│  │        │  +--rw bgp-extcommattr
│  │        │  │  +--rw custom-community
│  │        │  │  │  +--rw valid              boolean
│  │        │  │  │  +--rw insertion-point uint32
│  │        │  │  │  +--rw community-id    uint8
│  │        │  │  │  +--rw cost-id         uint32
│  │        │  │  +--rw usextcommsize?    uint16
│  │        │  │  +--rw ulrefcount?       uint32
│  │        │  │  +--rw extcommattr-value? string
│  │        │  +--rw bgp-clusterlist
│  │        │  │  +--rw uscluslen?        uint16
│  │        │  │  +--rw ulrefclus?        uint32
│  │        │  │  +--rw clusterlist-value? string
│  │        │  +--rw bgp-originator-id?   uint32
│  │     +--ro bgp-route-create?    enumeration
│  │     +--ro bgp-rt-state-info
│  │        +--ro rib-current-state?     rib-state-def
│  │        +--ro rib-last-state?        rib-state-def
│  │        +--ro rib-rejected-reason?   enumeration
│  │        +--ro not-preferred-reason?  enumeration
│  +--rw bgp-peer-list* [bgp-peer-name]
│     +--rw peer-session-address
│     │  +--rw local-ipv6-address?    inet:ipv6-prefix
│     │  +--rw remote-ipv6-address?   inet:ipv6-prefix
│     +--rw bgp-peer-name              string
│     +--ro bgp-peer-type?            enumeration
│     +--ro bgp-peer-create?          enumeration
│     +--rw bgp-policy-in
│     +--rw bgp-policy-out
│     +--ro peer-policy-in-pset
│     +--ro peer-policy-out-pset
│     +--rw peer-state-info
```

```
      │     │      +--ro peer-current-state?        peer-state
      │     │      +--ro peer-last-state?           peer-state
      │     │      +--ro peer-down-reason
      │     │      │  +--ro error-code?        enumeration
      │     │      │  +--ro sub-error-code
      │     │      │     +--ro (sub-error-code-type)?
      │     │      │        +--:(head-error-sub-code)
      │     │      │        │  +--ro head-error-sub-value?  enumeration
      │     │      │        +--:(open-error-sub-code)
      │     │      │        │  +--ro open-error-sub-value?  enumeration
      │     │      │        +--:(update-error-sub-code)
      │     │      │        │  +--ro update-error-sub-value? enumeration
      │     │      │        +--:(route-refresh-error-sub-code)
      │     │      │           +--ro route-refresh-error-sub-value?
      │     │      │                              enumeration
      │     │      +--ro peer-received-update-cnt?   uint64
      │     │      +--ro peer-transmit-update-cnt?   uint64
      │     │      +--ro peer-received-route-cnt?    uint64
      │     │      +--ro peer-send-route-cnt?        uint64
      │     │      +--rw max-prefix-rcv-limit?       uint64
      │     │      +--rw max-prefix-xmt-limit?       uint64
      │     │      +--ro peer-prefix-high?           uint64
      │     │      +--ro peer-prefix-low?            uint64
      │     │      +--ro peer-perfix-ave?            uint64
      │     │      +--ro peer-prefix-time?           uint64
      │     │      +--ro peer-prefix-max?            uint64
      │     │      +--ro publish-version?            uint64
      │     +--rw bgp-rib-in
      │     │   +--rw bgp-rib-in-list* [ipv6-route ipv6-prefix-length]
      │     │      +--rw ipv6-route               inet:ipv6-prefix
      │     │      +--rw ipv6-prefix-length    uint8
      │     │      +--rw bgp-route-type?          enumeration
      │     │      +--rw route-admin-distance  uint16
      │     │      +--rw bgp-attribute-list
      │     │      │  +--rw bgp-origin?        enumeration
      │     │      │  +--rw bgp-aspath
      │     │      │  │  +--rw usascount?          uint16
      │     │      │  │  +--rw ulrefcount?         uint16
      │     │      │  │  +--rw asstring?           string
      │     │      │  │  +--ro usascountfrcomp?    uint16
      │     │      │  │  +--rw usastotalcount?     uint16
      │     │      │  │  +--rw usas4pathlen?       uint16
      │     │      │  │  +--rw as4pathvalue?       string
      │     │      │  +--rw bgp-nexthop?  inet:ip-address
      │     │      │  +--rw bgp-med?               uint32
      │     │      │  +--rw bgp-localpref?         uint32
      │     │      │  +--rw bgp-atomic-aggregate? uint32
      │     │      │  +--rw bgp-aggregator
```

```
   │    │      │      │  +--rw ulipaddress?        uint32
   │    │      │      │  +--rw ulasnumber?         uint32
   │    │      │   +--rw bgp-commattr
   │    │      │   │  +--rw uscommsize?       uint16
   │    │      │   │  +--rw ulrefcomm?        uint32
   │    │      │   │  +--rw commattr-value?   string
   │    │      │   +--rw bgp-extcommattr
   │    │      │   │  +--rw custom-community
   │    │      │   │  │  +--rw valid            boolean
   │    │      │   │  │  +--rw insertion-point  uint32
   │    │      │   │  │  +--rw community-id     uint8
   │    │      │   │  │  +--rw cost-id          uint32
   │    │      │   │  +--rw usextcommsize?    uint16
   │    │      │   │  +--rw ulrefcount?       uint32
   │    │      │   │  +--rw extcommattr-value? string
   │    │      │   +--rw bgp-clusterlist
   │    │      │   │  +--rw uscluslen?        uint16
   │    │      │   │  +--rw ulrefclus?        uint32
   │    │      │   │  +--rw clusterlist-value? string
   │    │      │   +--rw bgp-originator-id?    uint32
   │    │      +--ro bgp-route-create?      enumeration
   │    │      +--ro bgp-rt-state-info
   │    │         +--ro rib-current-state?    rib-state-def
   │    │         +--ro rib-last-state?       rib-state-def
   │    │         +--ro rib-rejected-reason?  enumeration
   │    │         +--ro not-preferred-reason? enumeration
   │    +--rw bgp-rib-out
   │       +--rw bgp-rib-out-list* [ipv6-route ipv6-prefix-length]
   │          +--rw ipv6-route               inet:ipv6-prefix
   │          +--rw ipv6-prefix-length    uint8
   │          +--rw bgp-route-type?          enumeration
   │          +--rw route-admin-distance  uint16
   │          +--rw bgp-attribute-list
   │          │  +--rw bgp-origin?         enumeration
   │          │  +--rw bgp-aspath
   │          │  │  +--rw usascount?         uint16
   │          │  │  +--rw ulrefcount?        uint16
   │          │  │  +--rw asstring?          string
   │          │  │  +--ro usascountfrcomp?   uint16
   │          │  │  +--rw usastotalcount?    uint16
   │          │  │  +--rw usas4pathlen?      uint16
   │          │  │  +--rw as4pathvalue?      string
   │          │  +--rw bgp-nexthop?      et:ip-address
   │          │  +--rw bgp-med?                uint32
   │          │  +--rw bgp-localpref?          uint32
   │          │  +--rw bgp-atomic-aggregate? uint32
   │          │  +--rw bgp-aggregator
   │          │  │  +--rw ulipaddress?     uint32
```

```
        |                  |  | +--rw ulasnumber?        uint32
        |                  | +--rw bgp-commattr
        |                  |  | +--rw uscommsize?       uint16
        |                  |  | +--rw ulrefcomm?        uint32
        |                  |  | +--rw commattr-value? string
        |                  | +--rw bgp-extcommattr
        |                  |  | +--rw custom-community
        |                  |  | | +--rw valid              boolean
        |                  |  | | +--rw insertion-point uint32
        |                  |  | | +--rw community-id    uint8
        |                  |  | | +--rw cost-id         uint32
        |                  |  | +--rw usextcommsize?     uint16
        |                  |  | +--rw ulrefcount?        uint32
        |                  |  | +--rw extcommattr-value? string
        |                  | +--rw bgp-clusterlist
        |                  |  | +--rw uscluslen?         uint16
        |                  |  | +--rw ulrefclus?         uint32
        |                  |  | +--rw clusterlist-value? string
        |                  | +--rw bgp-originator-id?     uint32
        |            +--ro bgp-route-create?       enumeration
        |            +--ro bgp-rt-state-info
        |                +--ro rib-current-state? rib-state-def
        |                +--ro rib-last-state?    rib-state-def
        |                +--ro rib-rejected-reason? enumeration
        |                +--ro not-preferred-reason? enumeration
        +--rw bgp-labeled-ipv6-instance
        |  +--rw bgp-instance-name?       string
        |  +--rw bgp-instance-create?     enumeration
        |  +--rw bgp-instance-type?       enumeration
        |  +--rw bgp-vendor-type?         enumeration
        |  +--rw afi?                     afi-def
        |  +--rw safi?                    safi-def
        |  +--rw bgp-local-rib
        |  |  +--rw bgp-route-list*
        |  |        [ipv6-route ipv6-prefix-length mpls-label]
        |  |     +--rw ipv6-route              inet:ipv6-prefix
        |  |     +--rw ipv6-prefix-length   uint8
        |  |     +--rw mpls-label           mpls-label-def
        |  |     +--rw bgp-route-type?      enumeration
        |  |     +--rw route-admin-distance uint16
        |  |     +--rw bgp-attribute-list
        |  |     | +--rw bgp-origin?        enumeration
        |  |     | +--rw bgp-aspath
        |  |     | | +--rw usascount?         uint16
        |  |     | | +--rw ulrefcount?        uint16
        |  |     | | +--rw asstring?          string
        |  |     | | +--ro usascountfrcomp?   uint16
        |  |     | | +--rw usastotalcount?    uint16
```

```
|  |        |  | +--rw usas4pathlen?       uint16
|  |        |  | +--rw as4pathvalue?       string
|  |        | +--rw bgp-nexthop?  inet:ip-address
|  |        | +--rw bgp-med?                 uint32
|  |        | +--rw bgp-localpref?           uint32
|  |        | +--rw bgp-atomic-aggregate? uint32
|  |        | +--rw bgp-aggregator
|  |        | | +--rw ulipaddress?    uint32
|  |        | | +--rw ulasnumber?     uint32
|  |        | +--rw bgp-commattr
|  |        | | +--rw uscommsize?         uint16
|  |        | | +--rw ulrefcomm?          uint32
|  |        | | +--rw commattr-value?     string
|  |        | +--rw bgp-extcommattr
|  |        | | +--rw custom-community
|  |        | | | +--rw valid              boolean
|  |        | | | +--rw insertion-point uint32
|  |        | | | +--rw community-id     uint8
|  |        | | | +--rw cost-id          uint32
|  |        | | +--rw usextcommsize?       uint16
|  |        | | +--rw ulrefcount?          uint32
|  |        | | +--rw extcommattr-value? string
|  |        | +--rw bgp-clusterlist
|  |        | | +--rw uscluslen?          uint16
|  |        | | +--rw ulrefclus?          uint32
|  |        | | +--rw clusterlist-value? string
|  |        | +--rw bgp-originator-id?     uint32
|  |     +--ro bgp-route-create?     enumeration
|  |     +--ro bgp-rt-state-info
|  |        +--ro rib-current-state? rib-state-def
|  |        +--ro rib-last-state?    rib-state-def
|  |        +--ro rib-rejected-reason? enumeration
|  |        +--ro not-preferred-reason? enumeration
|  +--rw bgp-peer-list* [bgp-peer-name]
|     +--rw peer-session-address
|     | +--rw local-ipv6-address?  inet:ipv6-prefix
|     | +--rw remote-ipv6-address? inet:ipv6-prefix
|     +--rw bgp-peer-name               string
|     +--ro bgp-peer-type?              enumeration
|     +--ro bgp-peer-create?            enumeration
|     +--rw bgp-policy-in
|     +--rw bgp-policy-out
|     +--ro peer-policy-in-pset
|     +--ro peer-policy-out-pset
|     +--rw peer-state-info
|     | +--ro peer-current-state?  peer-state
|     | +--ro peer-last-state?     peer-state
|     | +--ro peer-down-reason
```

```
         |     |   | +--ro error-code?        enumeration
         |     |   | +--ro sub-error-code
         |     |   |    +--ro (sub-error-code-type)?
         |     |   |       +--:(head-error-sub-code)
         |     |   |       | +--ro head-error-sub-value? enumeration
         |     |   |       +--:(open-error-sub-code)
         |     |   |       | +--ro open-error-sub-value? enumeration
         |     |   |       +--:(update-error-sub-code)
         |     |   |       | +--ro update-error-sub-value? enumeration
         |     |   |       +--:(route-refresh-error-sub-code)
         |     |   |          +--ro route-refresh-error-sub-value?
         |     |   |                                      enumeration
         |     | +--ro peer-received-update-cnt?   uint64
         |     | +--ro peer-transmit-update-cnt?   uint64
         |     | +--ro peer-received-route-cnt?    uint64
         |     | +--ro peer-send-route-cnt?        uint64
         |     | +--rw max-prefix-rcv-limit?       uint64
         |     | +--rw max-prefix-xmt-limit?       uint64
         |     | +--ro peer-prefix-high?           uint64
         |     | +--ro peer-prefix-low?            uint64
         |     | +--ro peer-perfix-ave?            uint64
         |     | +--ro peer-prefix-time?           uint64
         |     | +--ro peer-prefix-max?            uint64
         |     | +--ro publish-version?            uint64
         |   +--rw bgp-rib-in
         |   | +--rw bgp-rib-in-list*
         |   |      [ipv6-route ipv6-prefix-length mpls-label]
         |   |    +--rw ipv6-route            inet:ipv6-prefix
         |   |    +--rw ipv6-prefix-length    uint8
         |   |    +--rw mpls-label            mpls-label-def
         |   |    +--rw bgp-route-type?       enumeration
         |   |    +--rw route-admin-distance  uint16
         |   |    +--rw bgp-attribute-list
         |   |    | +--rw bgp-origin?        enumeration
         |   |    | +--rw bgp-aspath
         |   |    | | +--rw usascount?       uint16
         |   |    | | +--rw ulrefcount?      uint16
         |   |    | | +--rw asstring?        string
         |   |    | | +--ro usascountfrcomp? uint16
         |   |    | | +--rw usastotalcount?  uint16
         |   |    | | +--rw usas4pathlen?    uint16
         |   |    | | +--rw as4pathvalue?    string
         |   |    | +--rw bgp-nexthop?   inet:ip-address
         |   |    | +--rw bgp-med?               uint32
         |   |    | +--rw bgp-localpref?         uint32
         |   |    | +--rw bgp-atomic-aggregate?  uint32
         |   |    | +--rw bgp-aggregator
         |   |    | | +--rw ulipaddress?    uint32
```

```
│   │       │   │ +--rw ulasnumber?     uint32
│   │       │   +--rw bgp-commattr
│   │       │   │ +--rw uscommsize?        uint16
│   │       │   │ +--rw ulrefcomm?         uint32
│   │       │   │ +--rw commattr-value?    string
│   │       │   +--rw bgp-extcommattr
│   │       │   │ +--rw custom-community
│   │       │   │ │ +--rw valid            boolean
│   │       │   │ │ +--rw insertion-point  uint32
│   │       │   │ │ +--rw community-id     uint8
│   │       │   │ │ +--rw cost-id          uint32
│   │       │   │ +--rw usextcommsize?     uint16
│   │       │   │ +--rw ulrefcount?        uint32
│   │       │   │ +--rw extcommattr-value? string
│   │       │   +--rw bgp-clusterlist
│   │       │   │ +--rw uscluslen?         uint16
│   │       │   │ +--rw ulrefclus?         uint32
│   │       │   │ +--rw clusterlist-value? string
│   │       │   +--rw bgp-originator-id?   uint32
│   │       +--ro bgp-route-create?    enumeration
│   │       +--ro bgp-rt-state-info
│   │          +--ro rib-current-state?     rib-state-def
│   │          +--ro rib-last-state?        rib-state-def
│   │          +--ro rib-rejected-reason?   enumeration
│   │          +--ro not-preferred-reason?  enumeration
│   +--rw bgp-rib-out
│      +--rw bgp-rib-out-list*
│             [ipv6-route ipv6-prefix-length mpls-label]
│         +--rw ipv6-route              inet:ipv6-prefix
│         +--rw ipv6-prefix-length      uint8
│         +--rw mpls-label              mpls-label-def
│         +--rw bgp-route-type?         enumeration
│         +--rw route-admin-distance    uint16
│         +--rw bgp-attribute-list
│         │ +--rw bgp-origin?             enumeration
│         │ +--rw bgp-aspath
│         │ │ +--rw usascount?        uint16
│         │ │ +--rw ulrefcount?       uint16
│         │ │ +--rw asstring?         string
│         │ │ +--ro usascountfrcomp?  uint16
│         │ │ +--rw usastotalcount?   uint16
│         │ │ +--rw usas4pathlen?     uint16
│         │ │ +--rw as4pathvalue?     string
│         │ +--rw bgp-nexthop?            inet:ip-address
│         │ +--rw bgp-med?                uint32
│         │ +--rw bgp-localpref?          uint32
│         │ +--rw bgp-atomic-aggregate?   uint32
│         │ +--rw bgp-aggregator
```

```
    │          │    │    +--rw ulipaddress?    uint32
    │          │    │    +--rw ulasnumber?     uint32
    │          │    +--rw bgp-commattr
    │          │    │    +--rw uscommsize?        uint16
    │          │    │    +--rw ulrefcomm?         uint32
    │          │    │    +--rw commattr-value?    string
    │          │    +--rw bgp-extcommattr
    │          │    │    +--rw custom-community
    │          │    │    │    +--rw valid            boolean
    │          │    │    │    +--rw insertion-point uint32
    │          │    │    │    +--rw community-id      uint8
    │          │    │    │    +--rw cost-id           uint32
    │          │    │    +--rw usextcommsize?     uint16
    │          │    │    +--rw ulrefcount?        uint32
    │          │    │    +--rw extcommattr-value?    string
    │          │    +--rw bgp-clusterlist
    │          │    │    +--rw uscluslen?          uint16
    │          │    │    +--rw ulrefclus?          uint32
    │          │    │    +--rw clusterlist-value?    string
    │          │    +--rw bgp-originator-id?       uint32
    │          +--ro bgp-route-create?      enumeration
    │          +--ro bgp-rt-state-info
    │              +--ro rib-current-state?      rib-state-def
    │              +--ro rib-last-state?         rib-state-def
    │              +--ro rib-rejected-reason?    enumeration
    │              +--ro not-preferred-reason?   enumeration
    +--rw bgp-ipv6-multi-instance
    │  +--rw bgp-instance-name?      string
    │  +--rw bgp-instance-create?    enumeration
    │  +--rw bgp-instance-type?      enumeration
    │  +--rw bgp-vendor-type?        enumeration
    │  +--rw afi?                    afi-def
    │  +--rw safi?                   safi-def
    │  +--rw bgp-local-rib
    │  │    +--rw bgp-route-list* [ipv6-route ipv6-prefix-length]
    │  │        +--rw ipv6-route            inet:ipv6-prefix
    │  │        +--rw ipv6-prefix-length    uint8
    │  │        +--rw bgp-route-type?       enumeration
    │  │        +--rw route-admin-distance  uint16
    │  │        +--rw bgp-attribute-list
    │  │        │    +--rw bgp-origin?           enumeration
    │  │        │    +--rw bgp-aspath
    │  │        │    │    +--rw usascount?       uint16
    │  │        │    │    +--rw ulrefcount?      uint16
    │  │        │    │    +--rw asstring?        string
    │  │        │    │    +--ro usascountfrcomp? uint16
    │  │        │    │    +--rw usastotalcount?  uint16
    │  │        │    │    +--rw usas4pathlen?    uint16
```

```
│ │       │ │ +--rw as4pathvalue?        string
│ │       │ +--rw bgp-nexthop?                inet:ip-address
│ │       │ +--rw bgp-med?                    uint32
│ │       │ +--rw bgp-localpref?              uint32
│ │       │ +--rw bgp-atomic-aggregate?       uint32
│ │       │ +--rw bgp-aggregator
│ │       │ │ +--rw ulipaddress?    uint32
│ │       │ │ +--rw ulasnumber?     uint32
│ │       │ +--rw bgp-commattr
│ │       │ │ +--rw uscommsize?        uint16
│ │       │ │ +--rw ulrefcomm?         uint32
│ │       │ │ +--rw commattr-value?    string
│ │       │ +--rw bgp-extcommattr
│ │       │ │ +--rw custom-community
│ │       │ │ │ +--rw valid               boolean
│ │       │ │ │ +--rw insertion-point uint32
│ │       │ │ │ +--rw community-id        uint8
│ │       │ │ │ +--rw cost-id             uint32
│ │       │ │ +--rw usextcommsize?      uint16
│ │       │ │ +--rw ulrefcount?         uint32
│ │       │ │ +--rw extcommattr-value?   string
│ │       │ +--rw bgp-clusterlist
│ │       │ │ +--rw uscluslen?          uint16
│ │       │ │ +--rw ulrefclus?          uint32
│ │       │ │ +--rw clusterlist-value?   string
│ │       │ +--rw bgp-originator-id?      uint32
│ │     +--ro bgp-route-create?    enumeration
│ │     +--ro bgp-rt-state-info
│ │        +--ro rib-current-state?     rib-state-def
│ │        +--ro rib-last-state?        rib-state-def
│ │        +--ro rib-rejected-reason?    enumeration
│ │        +--ro not-preferred-reason?   enumeration
│ +--rw bgp-peer-list* [bgp-peer-name]
│    +--rw peer-session-address
│    │ +--rw local-ipv6-address?    inet:ipv6-prefix
│    │ +--rw remote-ipv6-address?   inet:ipv6-prefix
│    +--rw bgp-peer-name             string
│    +--ro bgp-peer-type?            enumeration
│    +--ro bgp-peer-create?          enumeration
│    +--rw bgp-policy-in
│    +--rw bgp-policy-out
│    +--ro peer-policy-in-pset
│    +--ro peer-policy-out-pset
│    +--rw peer-state-info
│    │ +--ro peer-current-state?          peer-state
│    │ +--ro peer-last-state?             peer-state
│    │ +--ro peer-down-reason
│    │ │ +--ro error-code?         enumeration
```

```
│     │   │    +--ro sub-error-code
│     │   │       +--ro (sub-error-code-type)?
│     │   │          +--:(head-error-sub-code)
│     │   │          |  +--ro head-error-sub-value? enumeration
│     │   │          +--:(open-error-sub-code)
│     │   │          |  +--ro open-error-sub-value? enumeration
│     │   │          +--:(update-error-sub-code)
│     │   │          |  +--ro update-error-sub-value?
│     │   │                                     enumeration
│     │   │          +--:(route-refresh-error-sub-code)
│     │   │             +--ro route-refresh-error-sub-value?
│     │   │                                     enumeration
│     │   +--ro peer-received-update-cnt?    uint64
│     │   +--ro peer-transmit-update-cnt?    uint64
│     │   +--ro peer-received-route-cnt?     uint64
│     │   +--ro peer-send-route-cnt?         uint64
│     │   +--rw max-prefix-rcv-limit?        uint64
│     │   +--rw max-prefix-xmt-limit?        uint64
│     │   +--ro peer-prefix-high?            uint64
│     │   +--ro peer-prefix-low?             uint64
│     │   +--ro peer-perfix-ave?             uint64
│     │   +--ro peer-prefix-time?            uint64
│     │   +--ro peer-prefix-max?             uint64
│     │   +--ro publish-version?             uint64
│     +--rw bgp-rib-in
│     │   +--rw bgp-rib-in-list* [ipv6-route ipv6-prefix-length]
│     │      +--rw ipv6-route            inet:ipv6-prefix
│     │      +--rw ipv6-prefix-length    uint8
│     │      +--rw bgp-route-type?       enumeration
│     │      +--rw route-admin-distance  uint16
│     │      +--rw bgp-attribute-list
│     │      |  +--rw bgp-origin?             enumeration
│     │      |  +--rw bgp-aspath
│     │      |  |  +--rw usascount?      uint16
│     │      |  |  +--rw ulrefcount?     uint16
│     │      |  |  +--rw asstring?       string
│     │      |  |  +--ro usascountfrcomp? uint16
│     │      |  |  +--rw usastotalcount? uint16
│     │      |  |  +--rw usas4pathlen?   uint16
│     │      |  |  +--rw as4pathvalue?   string
│     │      |  +--rw bgp-nexthop?            inet:ip-address
│     │      |  +--rw bgp-med?                uint32
│     │      |  +--rw bgp-localpref?          uint32
│     │      |  +--rw bgp-atomic-aggregate?   uint32
│     │      |  +--rw bgp-aggregator
│     │      |  |  +--rw ulipaddress?    uint32
│     │      |  |  +--rw ulasnumber?     uint32
│     │      |  +--rw bgp-commattr
```

```
│     │        │    │   +--rw uscommsize?        uint16
│     │        │    │   +--rw ulrefcomm?         uint32
│     │        │    │   +--rw commattr-value?    string
│     │        │  +--rw bgp-extcommattr
│     │        │    │   +--rw custom-community
│     │        │    │   │   +--rw valid           boolean
│     │        │    │   │   +--rw insertion-point uint32
│     │        │    │   │   +--rw community-id      uint8
│     │        │    │   │   +--rw cost-id           uint32
│     │        │    │   +--rw usextcommsize?      uint16
│     │        │    │   +--rw ulrefcount?         uint32
│     │        │    │   +--rw extcommattr-value?  string
│     │        │  +--rw bgp-clusterlist
│     │        │    │   +--rw uscluslen?          uint16
│     │        │    │   +--rw ulrefclus?          uint32
│     │        │    │   +--rw clusterlist-value?  string
│     │        │  +--rw bgp-originator-id?      uint32
│     │      +--ro bgp-route-create?     enumeration
│     │      +--ro bgp-rt-state-info
│     │         +--ro rib-current-state?      rib-state-def
│     │         +--ro rib-last-state?         rib-state-def
│     │         +--ro rib-rejected-reason?    enumeration
│     │         +--ro not-preferred-reason?   enumeration
│    +--rw bgp-rib-out
│       +--rw bgp-rib-out-list* [ipv6-route ipv6-prefix-length]
│          +--rw ipv6-route               inet:ipv6-prefix
│          +--rw ipv6-prefix-length     uint8
│          +--rw bgp-route-type?         enumeration
│          +--rw route-admin-distance   uint16
│          +--rw bgp-attribute-list
│            │   +--rw bgp-origin?               enumeration
│            │   +--rw bgp-aspath
│            │   │   +--rw usascount?        uint16
│            │   │   +--rw ulrefcount?       uint16
│            │   │   +--rw asstring?         string
│            │   │   +--ro usascountfrcomp?  uint16
│            │   │   +--rw usastotalcount?   uint16
│            │   │   +--rw usas4pathlen?     uint16
│            │   │   +--rw as4pathvalue?     string
│            │   +--rw bgp-nexthop?              inet:ip-address
│            │   +--rw bgp-med?                  uint32
│            │   +--rw bgp-localpref?            uint32
│            │   +--rw bgp-atomic-aggregate?   uint32
│            │   +--rw bgp-aggregator
│            │   │   +--rw ulipaddress?    uint32
│            │   │   +--rw ulasnumber?     uint32
│            │   +--rw bgp-commattr
│            │   │   +--rw uscommsize?        uint16
```

```
   |        |   |  +--rw ulrefcomm?         uint32
   |        |   |  +--rw commattr-value?    string
   |        |   +--rw bgp-extcommattr
   |        |   |  +--rw custom-community
   |        |   |  |  +--rw valid            boolean
   |        |   |  |  +--rw insertion-point uint32
   |        |   |  |  +--rw community-id      uint8
   |        |   |  |  +--rw cost-id           uint32
   |        |   |  +--rw usextcommsize?      uint16
   |        |   |  +--rw ulrefcount?         uint32
   |        |   |  +--rw extcommattr-value?  string
   |        |   +--rw bgp-clusterlist
   |        |   |  +--rw uscluslen?          uint16
   |        |   |  +--rw ulrefclus?          uint32
   |        |   |  +--rw clusterlist-value?  string
   |        |   +--rw bgp-originator-id?     uint32
   |        +--ro bgp-route-create?     enumeration
   |        +--ro bgp-rt-state-info
   |           +--ro rib-current-state?    rib-state-def
   |           +--ro rib-last-state?       rib-state-def
   |           +--ro rib-rejected-reason?  enumeration
   |           +--ro not-preferred-reason? enumeration
   +--rw bgp-vpnv6-instance
   |  +--rw bgp-instance-name?     string
   |  +--rw bgp-instance-create?   enumeration
   |  +--rw bgp-instance-type?     enumeration
   |  +--rw bgp-vendor-type?       enumeration
   |  +--rw afi?                   afi-def
   |  +--rw safi?                  safi-def
   |  +--rw bgp-local-rib
   |  |  +--rw bgp-route-list*
   |  |     [ipv6-route ipv6-prefix-length route-distinguisher]
   |  |     +--rw ipv6-route             inet:ipv6-prefix
   |  |     +--rw ipv6-prefix-length     uint8
   |  |     +--rw mpls-label?            mpls-label-def
   |  |     +--rw route-distinguisher route-distinguisher-def
   |  |     +--rw bgp-route-type?        enumeration
   |  |     +--rw route-admin-distance   uint16
   |  |     +--rw bgp-attribute-list
   |  |     |  +--rw bgp-origin?          enumeration
   |  |     |  +--rw bgp-aspath
   |  |     |  |  +--rw usascount?       uint16
   |  |     |  |  +--rw ulrefcount?      uint16
   |  |     |  |  +--rw asstring?        string
   |  |     |  |  +--ro usascountfrcomp? uint16
   |  |     |  |  +--rw usastotalcount?  uint16
   |  |     |  |  +--rw usas4pathlen?    uint16
   |  |     |  |  +--rw as4pathvalue?    string
```

```
│  │        │  +--rw bgp-nexthop?              inet:ip-address
│  │        │  +--rw bgp-med?                  uint32
│  │        │  +--rw bgp-localpref?            uint32
│  │        │  +--rw bgp-atomic-aggregate?     uint32
│  │        │  +--rw bgp-aggregator
│  │        │  │  +--rw ulipaddress?   uint32
│  │        │  │  +--rw ulasnumber?    uint32
│  │        │  +--rw bgp-commattr
│  │        │  │  +--rw uscommsize?        uint16
│  │        │  │  +--rw ulrefcomm?         uint32
│  │        │  │  +--rw commattr-value?    string
│  │        │  +--rw bgp-extcommattr
│  │        │  │  +--rw custom-community
│  │        │  │  │  +--rw valid               boolean
│  │        │  │  │  +--rw insertion-point uint32
│  │        │  │  │  +--rw community-id        uint8
│  │        │  │  │  +--rw cost-id             uint32
│  │        │  │  +--rw usextcommsize?      uint16
│  │        │  │  +--rw ulrefcount?         uint32
│  │        │  │  +--rw extcommattr-value?  string
│  │        │  +--rw bgp-clusterlist
│  │        │  │  +--rw uscluslen?          uint16
│  │        │  │  +--rw ulrefclus?          uint32
│  │        │  │  +--rw clusterlist-value?  string
│  │        │  +--rw bgp-originator-id?    uint32
│  │     +--ro bgp-route-create?      enumeration
│  │     +--ro bgp-rt-state-info
│  │        +--ro rib-current-state?      rib-state-def
│  │        +--ro rib-last-state?         rib-state-def
│  │        +--ro rib-rejected-reason?    enumeration
│  │        +--ro not-preferred-reason?   enumeration
│  +--rw bgp-peer-list* [bgp-peer-name]
│     +--rw peer-session-address
│     │  +--rw local-ipv6-address?    inet:ipv6-prefix
│     │  +--rw remote-ipv6-address?   inet:ipv6-prefix
│     +--rw bgp-peer-name             string
│     +--ro bgp-peer-type?            enumeration
│     +--ro bgp-peer-create?          enumeration
│     +--rw bgp-policy-in
│     +--rw bgp-policy-out
│     +--ro peer-policy-in-pset
│     +--ro peer-policy-out-pset
│     +--rw peer-state-info
│     │  +--ro peer-current-state?          peer-state
│     │  +--ro peer-last-state?             peer-state
│     │  +--ro peer-down-reason
│     │  │  +--ro error-code?       enumeration
│     │  │  +--ro sub-error-code
```

```
 |    |   |          +--ro (sub-error-code-type)?
 |    |   |             +--:(head-error-sub-code)
 |    |   |             | +--ro head-error-sub-value? enumeration
 |    |   |             +--:(open-error-sub-code)
 |    |   |             | +--ro open-error-sub-value? enumeration
 |    |   |             +--:(update-error-sub-code)
 |    |   |             | +--ro update-error-sub-value?
 |    |   |                                      enumeration
 |    |   |             +--:(route-refresh-error-sub-code)
 |    |   |                +--ro route-refresh-error-sub-value?
 |    |   |                                         enumeration
 |    |   +--ro peer-received-update-cnt?    uint64
 |    |   +--ro peer-transmit-update-cnt?    uint64
 |    |   +--ro peer-received-route-cnt?     uint64
 |    |   +--ro peer-send-route-cnt?         uint64
 |    |   +--rw max-prefix-rcv-limit?        uint64
 |    |   +--rw max-prefix-xmt-limit?        uint64
 |    |   +--ro peer-prefix-high?            uint64
 |    |   +--ro peer-prefix-low?             uint64
 |    |   +--ro peer-perfix-ave?             uint64
 |    |   +--ro peer-prefix-time?            uint64
 |    |   +--ro peer-prefix-max?             uint64
 |    |   +--ro publish-version?             uint64
 |   +--rw bgp-rib-in
 |   | +--rw bgp-rib-in-list*
 |   |    [ipv6-route ipv6-prefix-length route-distinguisher]
 |   |      +--rw ipv6-route              inet:ipv6-prefix
 |   |      +--rw ipv6-prefix-length      uint8
 |   |      +--rw mpls-label?             mpls-label-def
 |   |      +--rw route-distinguisher route-distinguisher-def
 |   |      +--rw bgp-route-type?         enumeration
 |   |      +--rw route-admin-distance    uint16
 |   |      +--rw bgp-attribute-list
 |   |      | +--rw bgp-origin?           enumeration
 |   |      | +--rw bgp-aspath
 |   |      | | +--rw usascount?        uint16
 |   |      | | +--rw ulrefcount?       uint16
 |   |      | | +--rw asstring?         string
 |   |      | | +--ro usascountfrcomp?  uint16
 |   |      | | +--rw usastotalcount?   uint16
 |   |      | | +--rw usas4pathlen?     uint16
 |   |      | | +--rw as4pathvalue?     string
 |   |      | +--rw bgp-nexthop?   inet:ip-address
 |   |      | +--rw bgp-med?              uint32
 |   |      | +--rw bgp-localpref?        uint32
 |   |      | +--rw bgp-atomic-aggregate? uint32
 |   |      | +--rw bgp-aggregator
 |   |      | | +--rw ulipaddress?   uint32
```

```
│  │    │    │  +--rw ulasnumber?      uint32
│  │    │  +--rw bgp-commattr
│  │    │  │  +--rw uscommsize?        uint16
│  │    │  │  +--rw ulrefcomm?         uint32
│  │    │  │  +--rw commattr-value?    string
│  │    │  +--rw bgp-extcommattr
│  │    │  │  +--rw custom-community
│  │    │  │  │  +--rw valid             boolean
│  │    │  │  │  +--rw insertion-point uint32
│  │    │  │  │  +--rw community-id      uint8
│  │    │  │  │  +--rw cost-id           uint32
│  │    │  │  +--rw usextcommsize?     uint16
│  │    │  │  +--rw ulrefcount?        uint32
│  │    │  │  +--rw extcommattr-value?   string
│  │    │  +--rw bgp-clusterlist
│  │    │  │  +--rw uscluslen?          uint16
│  │    │  │  +--rw ulrefclus?          uint32
│  │    │  │  +--rw clusterlist-value?  string
│  │    │  +--rw bgp-originator-id?     uint32
│  │    +--ro bgp-route-create?     enumeration
│  │    +--ro bgp-rt-state-info
│  │       +--ro rib-current-state?      rib-state-def
│  │       +--ro rib-last-state?         rib-state-def
│  │       +--ro rib-rejected-reason?    enumeration
│  │       +--ro not-preferred-reason?   enumeration
│  +--rw bgp-rib-out
│     +--rw bgp-rib-out-list*
│        [ipv6-route ipv6-prefix-length route-distinguisher]
│        +--rw ipv6-route            inet:ipv6-prefix
│        +--rw ipv6-prefix-length    uint8
│        +--rw mpls-label?           mpls-label-def
│        +--rw route-distinguisher route-distinguisher-def
│        +--rw bgp-route-type?       enumeration
│        +--rw route-admin-distance  uint16
│        +--rw bgp-attribute-list
│           │  +--rw bgp-origin?          enumeration
│           │  +--rw bgp-aspath
│           │  │  +--rw usascount?       uint16
│           │  │  +--rw ulrefcount?      uint16
│           │  │  +--rw asstring?        string
│           │  │  +--ro usascountfrcomp?  uint16
│           │  │  +--rw usastotalcount?  uint16
│           │  │  +--rw usas4pathlen?    uint16
│           │  │  +--rw as4pathvalue?    string
│           │  +--rw bgp-nexthop?   inet:ip-address
│           │  +--rw bgp-med?                 uint32
│           │  +--rw bgp-localpref?           uint32
│           │  +--rw bgp-atomic-aggregate?    uint32
```

```
│              │   │ +--rw bgp-aggregator
│              │   │ | +--rw ulipaddress?    uint32
│              │   │ | +--rw ulasnumber?     uint32
│              │   │ +--rw bgp-commattr
│              │   │ | +--rw uscommsize?        uint16
│              │   │ | +--rw ulrefcomm?         uint32
│              │   │ | +--rw commattr-value?    string
│              │   │ +--rw bgp-extcommattr
│              │   │ | +--rw custom-community
│              │   │ | | +--rw valid            boolean
│              │   │ | | +--rw insertion-point uint32
│              │   │ | | +--rw community-id     uint8
│              │   │ | | +--rw cost-id          uint32
│              │   │ | +--rw usextcommsize?       uint16
│              │   │ | +--rw ulrefcount?          uint32
│              │   │ | +--rw extcommattr-value?   string
│              │   │ +--rw bgp-clusterlist
│              │   │ | +--rw uscluslen?           uint16
│              │   │ | +--rw ulrefclus?           uint32
│              │   │ | +--rw clusterlist-value?   string
│              │   │ +--rw bgp-originator-id?      uint32
│              │ +--ro bgp-route-create?       enumeration
│              │ +--ro bgp-rt-state-info
│              │    +--ro rib-current-state?     rib-state-def
│              │    +--ro rib-last-state?        rib-state-def
│              │    +--ro rib-rejected-reason?    enumeration
│              │    +--ro not-preferred-reason?  enumeration
│  +--rw bgp-ipv6-l3vpn-instance-list* [bgp-l3vpn-instance-name]
│    | +--rw bgp-l3vpn-instance-name    string
│    | +--rw bgp-instance-name?         string
│    | +--rw bgp-instance-create?       enumeration
│    | +--rw bgp-instance-type?         enumeration
│    | +--rw bgp-vendor-type?           enumeration
│    | +--rw afi?                       afi-def
│    | +--rw safi?                      safi-def
│    | +--rw bgp-local-rib
│    | |  +--rw bgp-route-list* [ipv6-route ipv6-prefix-length]
│    | |     +--rw ipv6-route           inet:ipv6-prefix
│    | |     +--rw ipv6-prefix-length   uint8
│    | |     +--rw bgp-route-type?       enumeration
│    | |     +--rw route-admin-distance  uint16
│    | |     +--rw bgp-attribute-list
│    | |       | +--rw bgp-origin?          enumeration
│    | |       | +--rw bgp-aspath
│    | |       | | +--rw usascount?        uint16
│    | |       | | +--rw ulrefcount?        uint16
│    | |       | | +--rw asstring?          string
│    | |       | | +--ro usascountfrcomp?   uint16
```

```
   |  |        |  |  +--rw usastotalcount?      uint16
   |  |        |  |  +--rw usas4pathlen?        uint16
   |  |        |  |  +--rw as4pathvalue?        string
   |  |        +--rw bgp-nexthop?    inet:ip-address
   |  |        +--rw bgp-med?                   uint32
   |  |        +--rw bgp-localpref?             uint32
   |  |        +--rw bgp-atomic-aggregate?   uint32
   |  |        +--rw bgp-aggregator
   |  |        |  +--rw ulipaddress?   uint32
   |  |        |  +--rw ulasnumber?    uint32
   |  |        +--rw bgp-commattr
   |  |        |  +--rw uscommsize?        uint16
   |  |        |  +--rw ulrefcomm?         uint32
   |  |        |  +--rw commattr-value?    string
   |  |        +--rw bgp-extcommattr
   |  |        |  +--rw custom-community
   |  |        |  +--rw valid               boolean
   |  |        |  |  +--rw insertion-point uint32
   |  |        |  |  +--rw community-id        uint8
   |  |        |  |  +--rw cost-id             uint32
   |  |        |  +--rw usextcommsize?       uint16
   |  |        |  +--rw ulrefcount?          uint32
   |  |        |  +--rw extcommattr-value?   string
   |  |        +--rw bgp-clusterlist
   |  |        |  +--rw uscluslen?           uint16
   |  |        |  +--rw ulrefclus?           uint32
   |  |        |  +--rw clusterlist-value?   string
   |  |        +--rw bgp-originator-id?       uint32
   |  +--ro bgp-route-create?     enumeration
   |  +--ro bgp-rt-state-info
   |     +--ro rib-current-state?       rib-state-def
   |     +--ro rib-last-state?          rib-state-def
   |     +--ro rib-rejected-reason?     enumeration
   |     +--ro not-preferred-reason?    enumeration
   +--rw bgp-peer-list* [bgp-peer-name]
      +--rw peer-session-address
      |  +--rw local-ipv6-address?     inet:ipv6-prefix
      |  +--rw remote-ipv6-address?    inet:ipv6-prefix
      +--rw bgp-peer-name              string
      +--ro bgp-peer-type?             enumeration
      +--ro bgp-peer-create?           enumeration
      +--rw bgp-policy-in
      +--rw bgp-policy-out
      +--ro peer-policy-in-pset
      +--ro peer-policy-out-pset
      +--rw peer-state-info
      |  +--ro peer-current-state?            peer-state
      |  +--ro peer-last-state?               peer-state
```

```
   |      |     +--ro peer-down-reason
   |      |     |  +--ro error-code?         enumeration
   |      |     |  +--ro sub-error-code
   |      |     |     +--ro (sub-error-code-type)?
   |      |     |        +--:(head-error-sub-code)
   |      |     |        |  +--ro head-error-sub-value? enumeration
   |      |     |        +--:(open-error-sub-code)
   |      |     |        |  +--ro open-error-sub-value? enumeration
   |      |     |        +--:(update-error-sub-code)
   |      |     |        |  +--ro update-error-sub-value?
   |      |     |        |                         enumeration
   |      |     |        +--:(route-refresh-error-sub-code)
   |      |     |           +--ro route-refresh-error-sub-value?
   |      |     |                                  enumeration
   |      |     +--ro peer-received-update-cnt?   uint64
   |      |     +--ro peer-transmit-update-cnt?   uint64
   |      |     +--ro peer-received-route-cnt?    uint64
   |      |     +--ro peer-send-route-cnt?        uint64
   |      |     +--rw max-prefix-rcv-limit?       uint64
   |      |     +--rw max-prefix-xmt-limit?       uint64
   |      |     +--ro peer-prefix-high?           uint64
   |      |     +--ro peer-prefix-low?            uint64
   |      |     +--ro peer-perfix-ave?            uint64
   |      |     +--ro peer-prefix-time?           uint64
   |      |     +--ro peer-prefix-max?            uint64
   |      |     +--ro publish-version?            uint64
   |      +--rw bgp-rib-in
   |      |  +--rw bgp-rib-in-list* [ipv6-route ipv6-prefix-length]
   |      |     +--rw ipv6-route             inet:ipv6-prefix
   |      |     +--rw ipv6-prefix-length     uint8
   |      |     +--rw bgp-route-type?        enumeration
   |      |     +--rw route-admin-distance   uint16
   |      |     +--rw bgp-attribute-list
   |      |     |  +--rw bgp-origin?               enumeration
   |      |     |  +--rw bgp-aspath
   |      |     |  |  +--rw usascount?        uint16
   |      |     |  |  +--rw ulrefcount?       uint16
   |      |     |  |  +--rw asstring?         string
   |      |     |  |  +--ro usascountfrcomp?  uint16
   |      |     |  |  +--rw usastotalcount?   uint16
   |      |     |  |  +--rw usas4pathlen?     uint16
   |      |     |  |  +--rw as4pathvalue?     string
   |      |     |  +--rw bgp-nexthop?              inet:ip-address
   |      |     |  +--rw bgp-med?                  uint32
   |      |     |  +--rw bgp-localpref?            uint32
   |      |     |  +--rw bgp-atomic-aggregate?     uint32
   |      |     |  +--rw bgp-aggregator
   |      |     |  |  +--rw ulipaddress?    uint32
```

```
│    │      │   │  +--rw ulasnumber?      uint32
│    │      │ +--rw bgp-commattr
│    │      │ │  +--rw uscommsize?        uint16
│    │      │ │  +--rw ulrefcomm?         uint32
│    │      │ │  +--rw commattr-value?    string
│    │      │ +--rw bgp-extcommattr
│    │      │ │  +--rw custom-community
│    │      │ │  │  +--rw valid              boolean
│    │      │ │  │  +--rw insertion-point uint32
│    │      │ │  │  +--rw community-id       uint8
│    │      │ │  │  +--rw cost-id            uint32
│    │      │ │  +--rw usextcommsize?      uint16
│    │      │ │  +--rw ulrefcount?         uint32
│    │      │ │  +--rw extcommattr-value?  string
│    │      │ +--rw bgp-clusterlist
│    │      │ │  +--rw uscluslen?          uint16
│    │      │ │  +--rw ulrefclus?          uint32
│    │      │ │  +--rw clusterlist-value?  string
│    │      │ +--rw bgp-originator-id?      uint32
│    │      +--ro bgp-route-create?        enumeration
│    │      +--ro bgp-rt-state-info
│    │         +--ro rib-current-state?       rib-state-def
│    │         +--ro rib-last-state?          rib-state-def
│    │         +--ro rib-rejected-reason?     enumeration
│    │         +--ro not-preferred-reason?    enumeration
│    +--rw bgp-rib-out
│       +--rw bgp-rib-out-list*
│             [ipv6-route ipv6-prefix-length]
│          +--rw ipv6-route              inet:ipv6-prefix
│          +--rw ipv6-prefix-length      uint8
│          +--rw bgp-route-type?         enumeration
│          +--rw route-admin-distance    uint16
│          +--rw bgp-attribute-list
│          │  +--rw bgp-origin?               enumeration
│          │  +--rw bgp-aspath
│          │  │  +--rw usascount?         uint16
│          │  │  +--rw ulrefcount?        uint16
│          │  │  +--rw asstring?          string
│          │  │  +--ro usascountfrcomp?   uint16
│          │  │  +--rw usastotalcount?    uint16
│          │  │  +--rw usas4pathlen?      uint16
│          │  │  +--rw as4pathvalue?      string
│          │  +--rw bgp-nexthop?   inet:ip-address
│          │  +--rw bgp-med?                   uint32
│          │  +--rw bgp-localpref?             uint32
│          │  +--rw bgp-atomic-aggregate?    uint32
│          │  +--rw bgp-aggregator
│          │  │  +--rw ulipaddress?    uint32
```

```
  |                  |   |   +--rw ulasnumber?      uint32
  |                  |   +--rw bgp-commattr
  |                  |   |   +--rw uscommsize?       uint16
  |                  |   |   +--rw ulrefcomm?        uint32
  |                  |   |   +--rw commattr-value?   string
  |                  |   +--rw bgp-extcommattr
  |                  |   |   +--rw custom-community
  |                  |   |   |   +--rw valid              boolean
  |                  |   |   |   +--rw insertion-point uint32
  |                  |   |   |   +--rw community-id        uint8
  |                  |   |   |   +--rw cost-id             uint32
  |                  |   |   +--rw usextcommsize?     uint16
  |                  |   |   +--rw ulrefcount?        uint32
  |                  |   |   +--rw extcommattr-value?   string
  |                  |   +--rw bgp-clusterlist
  |                  |   |   +--rw uscluslen?          uint16
  |                  |   |   +--rw ulrefclus?          uint32
  |                  |   |   +--rw clusterlist-value?  string
  |                  |   +--rw bgp-originator-id?      uint32
  |              +--ro bgp-route-create?       enumeration
  |              +--ro bgp-rt-state-info
  |                  +--ro rib-current-state?       rib-state-def
  |                  +--ro rib-last-state?          rib-state-def
  |                  +--ro rib-rejected-reason?     enumeration
  |                  +--ro not-preferred-reason?    enumeration
  +--rw bgp-ipv4-mvpn-instance
  |   +--rw bgp-instance-name?       string
  |   +--rw bgp-instance-create?     enumeration
  |   +--rw bgp-instance-type?       enumeration
  |   +--rw bgp-vendor-type?         enumeration
  |   +--rw afi?                     afi-def
  |   +--rw safi?                    safi-def
  |   +--rw bgp-local-rib
  |   |   +--rw bgp-route-type?       enumeration
  |   |   +--rw route-admin-distance  uint16
  |   |   +--rw bgp-attribute-list
  |   |   |   +--rw bgp-origin?        enumeration
  |   |   |   +--rw bgp-aspath
  |   |   |   |   +--rw usascount?       uint16
  |   |   |   |   +--rw ulrefcount?      uint16
  |   |   |   |   +--rw asstring?        string
  |   |   |   |   +--ro usascountfrcomp?  uint16
  |   |   |   |   +--rw usastotalcount?  uint16
  |   |   |   |   +--rw usas4pathlen?    uint16
  |   |   |   |   +--rw as4pathvalue?    string
  |   |   |   +--rw bgp-nexthop?            inet:ip-address
  |   |   |   +--rw bgp-med?                uint32
  |   |   |   +--rw bgp-localpref?          uint32
```

```
|  |  |  +--rw bgp-atomic-aggregate?   uint32
|  |  |  +--rw bgp-aggregator
|  |  |  |  +--rw ulipaddress?   uint32
|  |  |  |  +--rw ulasnumber?    uint32
|  |  |  +--rw bgp-commattr
|  |  |  |  +--rw uscommsize?        uint16
|  |  |  |  +--rw ulrefcomm?         uint32
|  |  |  |  +--rw commattr-value?    string
|  |  |  +--rw bgp-extcommattr
|  |  |  |  +--rw custom-community
|  |  |  |  |  +--rw valid                boolean
|  |  |  |  |  +--rw insertion-point uint32
|  |  |  |  |  +--rw community-id         uint8
|  |  |  |  |  +--rw cost-id              uint32
|  |  |  |  +--rw usextcommsize?        uint16
|  |  |  |  +--rw ulrefcount?           uint32
|  |  |  |  +--rw extcommattr-value?    string
|  |  |  +--rw bgp-clusterlist
|  |  |  |  +--rw uscluslen?            uint16
|  |  |  |  +--rw ulrefclus?            uint32
|  |  |  |  +--rw clusterlist-value?    string
|  |  |  +--rw bgp-originator-id?        uint32
|  |  +--ro bgp-route-create?            enumeration
|  |  +--ro bgp-rt-state-info
|  |  |  +--ro rib-current-state?     rib-state-def
|  |  |  +--ro rib-last-state?        rib-state-def
|  |  |  +--ro rib-rejected-reason?    enumeration
|  |  |  +--ro not-preferred-reason?   enumeration
|  |  +--rw (bgp-mvpn-route-type)?
|  |     +--:(INTRA_AS_I_PMSI_AD)
|  |     |  +--rw intra-as-i-pmsi-ad-route*
|          [route-type route-distinguisher origin-router-ip-addr]
|  |     |        +--rw route-type          mvpn-route-type
|  |     |        +--rw route-distinguisher route-distinguisher-def
|  |     |        +--rw origin-router-ip-addr inet:ip-prefix
|  |     +--:(INTER_AS_I_PMSI_AD)
|  |     |  +--rw inter_as_i_pmsi_as_route*
|                [route-type route-distinguisher source-as]
|  |     |        +--rw route-type          mvpn-route-type
|  |     |        +--rw route-distinguisher route-distinguisher-def
|  |     |        +--rw source-as           inet:as-number
|  |     +--:(S_PMSI_AD)
|  |     |  +--rw s-pmsi-ad-route*
|          [route-type route-distinguisher multicast-source
|                     multicast-group origin-router-ip-addr]
|  |     |        +--rw route-type          mvpn-route-type
|  |     |        +--rw route-distinguisher route-distinguisher-def
|  |     |        +--rw multicast-source     inet:ip-prefix
```

```
      |  |      |     +--rw multicast-group       inet:ip-prefix
      |  |      |     +--rw origin-router-ip-addr    inet:ip-prefix
      |  |      +--:(LEAF_AD)
      |  |      |  +--rw leaf-ad-route*
      |  |      |              [route-type route-key origin-router-ip-addr]
      |  |      |     +--rw route-type                mvpn-route-type
      |  |      |     +--rw route-key                 binary
      |  |      |     +--rw origin-router-ip-addr    inet:ip-prefix
      |  |      +--:(SOURCE_ACTIVE_AD)
      |  |      |  +--rw source-active-ad-route*
      [route-type route-distinguisher multicast-source multicast-group]
      |  |      |     +--rw route-type                mvpn-route-type
      |  |      |     +--rw route-distinguisher route-distinguisher-def
      |  |      |     +--rw multicast-source         inet:ip-prefix
      |  |      |     +--rw multicast-group          inet:ip-prefix
      |  |      +--:(SHARED_TREE_JOIN)
      |  |      |  +--rw shared-tree-join-route*
      |  |      |          [route-type route-distinguisher source-as
      |  |      |                  multicast-source multicast-group]
      |  |      |     +--rw route-type                mvpn-route-type
      |  |      |     +--rw route-distinguisher route-distinguisher-def
      |  |      |     +--rw source-as                 inet:as-number
      |  |      |     +--rw multicast-source         inet:ip-prefix
      |  |      |     +--rw multicast-group          inet:ip-prefix
      |  |      +--:(SOURCE_TREE_JOIN)
      |  |         +--rw source-tree-join-route*
      |  |                 [route-type route-distinguisher source-as
      |  |                         multicast-source multicast-group]
      |  |            +--rw route-type                mvpn-route-type
      |  |            +--rw route-distinguisher route-distinguisher-def
      |  |            +--rw source-as                 inet:as-number
      |  |            +--rw multicast-source         inet:ip-prefix
      |  |            +--rw multicast-group          inet:ip-prefix
      |  +--rw bgp-peer-list* [bgp-peer-name]
      |     +--rw peer-session-address
      |     |  +--rw local-ipv4-address?    inet:ipv4-prefix
      |     |  +--rw remote-ipv4-address?   inet:ipv4-prefix
      |     +--rw bgp-peer-name              string
      |     +--ro bgp-peer-type?            enumeration
      |     +--ro bgp-peer-create?         enumeration
      |     +--rw bgp-policy-in
      |     +--rw bgp-policy-out
      |     +--ro peer-policy-in-pset
      |     +--ro peer-policy-out-pset
      |     +--rw peer-state-info
      |     |  +--ro peer-current-state?          peer-state
      |     |  +--ro peer-last-state?             peer-state
      |     |  +--ro peer-down-reason
```

```
   |    |    |    +--ro error-code?        enumeration
   |    |    |    +--ro sub-error-code
   |    |    |       +--ro (sub-error-code-type)?
   |    |    |          +--:(head-error-sub-code)
   |    |    |          |  +--ro head-error-sub-value? enumeration
   |    |    |          +--:(open-error-sub-code)
   |    |    |          |  +--ro open-error-sub-value? enumeration
   |    |    |          +--:(update-error-sub-code)
   |    |    |          |  +--ro update-error-sub-value?
   |    |    |          |                       enumeration
   |    |    |          +--:(route-refresh-error-sub-code)
   |    |    |             +--ro route-refresh-error-sub-value?
   |    |    |                                  enumeration
   |    |    +--ro peer-received-update-cnt?   uint64
   |    |    +--ro peer-transmit-update-cnt?   uint64
   |    |    +--ro peer-received-route-cnt?    uint64
   |    |    +--ro peer-send-route-cnt?        uint64
   |    |    +--rw max-prefix-rcv-limit?       uint64
   |    |    +--rw max-prefix-xmt-limit?       uint64
   |    |    +--ro peer-prefix-high?           uint64
   |    |    +--ro peer-prefix-low?            uint64
   |    |    +--ro peer-perfix-ave?            uint64
   |    |    +--ro peer-prefix-time?           uint64
   |    |    +--ro peer-prefix-max?            uint64
   |    |    +--ro publish-version?            uint64
   |    +--rw bgp-rib-in
   |    |    +--rw bgp-route-type?        enumeration
   |    |    +--rw route-admin-distance   uint16
   |    |    +--rw bgp-attribute-list
   |    |    |  +--rw bgp-origin?        enumeration
   |    |    |  +--rw bgp-aspath
   |    |    |  |  +--rw usascount?        uint16
   |    |    |  |  +--rw ulrefcount?       uint16
   |    |    |  |  +--rw asstring?         string
   |    |    |  |  +--ro usascountfrcomp?  uint16
   |    |    |  |  +--rw usastotalcount?   uint16
   |    |    |  |  +--rw usas4pathlen?     uint16
   |    |    |  |  +--rw as4pathvalue?     string
   |    |    |  +--rw bgp-nexthop?   inet:ip-address
   |    |    |  +--rw bgp-med?                uint32
   |    |    |  +--rw bgp-localpref?          uint32
   |    |    |  +--rw bgp-atomic-aggregate?   uint32
   |    |    |  +--rw bgp-aggregator
   |    |    |  |  +--rw ulipaddress?   uint32
   |    |    |  |  +--rw ulasnumber?    uint32
   |    |    |  +--rw bgp-commattr
   |    |    |  |  +--rw uscommsize?        uint16
   |    |    |  |  +--rw ulrefcomm?         uint32
```

```
 |    |    |  |  |   +--rw commattr-value?    string
 |    |    |  |  +--rw bgp-extcommattr
 |    |    |  |  |  +--rw custom-community
 |    |    |  |  |  |  +--rw valid            boolean
 |    |    |  |  |  |  +--rw insertion-point uint32
 |    |    |  |  |  |  +--rw community-id     uint8
 |    |    |  |  |  |  +--rw cost-id          uint32
 |    |    |  |  |  +--rw usextcommsize?    uint16
 |    |    |  |  |  +--rw ulrefcount?       uint32
 |    |    |  |  |  +--rw extcommattr-value? string
 |    |    |  |  +--rw bgp-clusterlist
 |    |    |  |  |  +--rw uscluslen?        uint16
 |    |    |  |  |  +--rw ulrefclus?        uint32
 |    |    |  |  |  +--rw clusterlist-value? string
 |    |    |  |  +--rw bgp-originator-id?    uint32
 |    |    +--ro bgp-route-create?              enumeration
 |    |    +--ro bgp-rt-state-info
 |    |    |  +--ro rib-current-state?    rib-state-def
 |    |    |  +--ro rib-last-state?       rib-state-def
 |    |    |  +--ro rib-rejected-reason?  enumeration
 |    |    |  +--ro not-preferred-reason? enumeration
 |    |    +--rw (bgp-mvpn-route-type)?
 |    |       +--:(INTRA_AS_I_PMSI_AD)
 |    |       |  +--rw intra-as-i-pmsi-ad-route*
 |    |        [route-type route-distinguisher origin-router-ip-addr]
 |    |       |     +--rw route-type         mvpn-route-type
 |    |       |     +--rw route-distinguisher route-distinguisher-def
 |    |       |     +--rw origin-router-ip-addr  inet:ip-prefix
 |    |       +--:(INTER_AS_I_PMSI_AD)
 |    |       |  +--rw inter_as_i_pmsi_as_route*
 |    |       |        [route-type route-distinguisher source-as]
 |    |       |     +--rw route-type         mvpn-route-type
 |    |       |     +--rw route-distinguisher route-distinguisher-def
 |    |       |     +--rw source-as           inet:as-number
 |    |       +--:(S_PMSI_AD)
 |    |       |  +--rw s-pmsi-ad-route*
 |    |       |        [route-type route-distinguisher
 |          multicast-source multicast-group origin-router-ip-addr]
 |    |       |     +--rw route-type         mvpn-route-type
 |    |       |     +--rw route-distinguisher route-distinguisher-def
 |    |       |     +--rw multicast-source    inet:ip-prefix
 |    |       |     +--rw multicast-group     inet:ip-prefix
 |    |       |     +--rw origin-router-ip-addr  inet:ip-prefix
 |    |       +--:(LEAF_AD)
 |    |       |  +--rw leaf-ad-route*
 |    |       |        [route-type route-key origin-router-ip-addr]
 |    |       |     +--rw route-type                mvpn-route-type
 |    |       |     +--rw route-key                 binary
```

```
        |     |     |        +--rw origin-router-ip-addr    inet:ip-prefix
        |     |        +--:(SOURCE_ACTIVE_AD)
        |     |        |  +--rw source-active-ad-route*
       [route-type route-distinguisher multicast-source multicast-group]
        |     |     |        +--rw route-type             mvpn-route-type
        |     |     |        +--rw route-distinguisher    route-distinguisher-def
        |     |     |        +--rw multicast-source       inet:ip-prefix
        |     |     |        +--rw multicast-group        inet:ip-prefix
        |     |        +--:(SHARED_TREE_JOIN)
        |     |        |  +--rw shared-tree-join-route*
        |              [route-type route-distinguisher source-as
        |                       multicast-source multicast-group]
        |     |     |        +--rw route-type             mvpn-route-type
        |     |     |        +--rw route-distinguisher route-distinguisher-def
        |     |     |        +--rw source-as              inet:as-number
        |     |     |        +--rw multicast-source       inet:ip-prefix
        |     |     |        +--rw multicast-group        inet:ip-prefix
        |     |        +--:(SOURCE_TREE_JOIN)
        |     |           +--rw source-tree-join-route*
        |     |           [route-type route-distinguisher source-as
        |                            multicast-source multicast-group]
        |     |     |        +--rw route-type             mvpn-route-type
        |     |     |        +--rw route-distinguisher route-distinguisher-def
        |     |     |        +--rw source-as              inet:as-number
        |     |     |        +--rw multicast-source       inet:ip-prefix
        |     |     |        +--rw multicast-group        inet:ip-prefix
        |        +--rw bgp-rib-out
        |           +--rw bgp-route-type?          enumeration
        |           +--rw route-admin-distance     uint16
        |           +--rw bgp-attribute-list
        |           |  +--rw bgp-origin?           enumeration
        |           |  +--rw bgp-aspath
        |           |  |  +--rw usascount?          uint16
        |           |  |  +--rw ulrefcount?         uint16
        |           |  |  +--rw asstring?           string
        |           |  |  +--ro usascountfrcomp?    uint16
        |           |  |  +--rw usastotalcount?     uint16
        |           |  |  +--rw usas4pathlen?       uint16
        |           |  |  +--rw as4pathvalue?       string
        |           |  +--rw bgp-nexthop?             inet:ip-address
        |           |  +--rw bgp-med?                 uint32
        |           |  +--rw bgp-localpref?           uint32
        |           |  +--rw bgp-atomic-aggregate?    uint32
        |           |  +--rw bgp-aggregator
        |           |  |  +--rw ulipaddress?    uint32
        |           |  |  +--rw ulasnumber?     uint32
        |           |  +--rw bgp-commattr
        |           |  |  +--rw uscommsize?          uint16
```

```
  │         │   │  +--rw ulrefcomm?         uint32
  │         │   │  +--rw commattr-value?    string
  │         │   +--rw bgp-extcommattr
  │         │   │  +--rw custom-community
  │         │   │  │  +--rw valid               boolean
  │         │   │  │  +--rw insertion-point uint32
  │         │   │  │  +--rw community-id        uint8
  │         │   │  │  +--rw cost-id             uint32
  │         │   │  +--rw usextcommsize?      uint16
  │         │   │  +--rw ulrefcount?         uint32
  │         │   │  +--rw extcommattr-value?  string
  │         │   +--rw bgp-clusterlist
  │         │   │  +--rw uscluslen?          uint16
  │         │   │  +--rw ulrefclus?          uint32
  │         │   │  +--rw clusterlist-value?  string
  │         │   +--rw bgp-originator-id?   uint32
  │         +--ro bgp-route-create?          enumeration
  │         +--ro bgp-rt-state-info
  │         │  +--ro rib-current-state?    rib-state-def
  │         │  +--ro rib-last-state?       rib-state-def
  │         │  +--ro rib-rejected-reason?  enumeration
  │         │  +--ro not-preferred-reason? enumeration
  │         +--rw (bgp-mvpn-route-type)?
  │           +--:(INTRA_AS_I_PMSI_AD)
  │           │  +--rw intra-as-i-pmsi-ad-route*
  │         [route-type route-distinguisher origin-router-ip-addr]
  │           │     +--rw route-type         mvpn-route-type
  │           │     +--rw route-distinguisher route-distinguisher-def
  │           │     +--rw origin-router-ip-addr    inet:ip-prefix
  │           +--:(INTER_AS_I_PMSI_AD)
  │           │  +--rw inter_as_i_pmsi_as_route*
  │                    [route-type route-distinguisher source-as]
  │           │     +--rw route-type         mvpn-route-type
  │           │     +--rw route-distinguisher route-distinguisher-def
  │           │     +--rw source-as           inet:as-number
  │           +--:(S_PMSI_AD)
  │           │  +--rw s-pmsi-ad-route*
  │                 [route-type route-distinguisher multicast-source
  │                    multicast-group origin-router-ip-addr]
  │           │     +--rw route-type         mvpn-route-type
  │           │     +--rw route-distinguisher route-distinguisher-def
  │           │     +--rw multicast-source    inet:ip-prefix
  │           │     +--rw multicast-group     inet:ip-prefix
  │           │     +--rw origin-router-ip-addr    inet:ip-prefix
  │           +--:(LEAF_AD)
  │           │  +--rw leaf-ad-route*
  │                 [route-type route-key origin-router-ip-addr]
  │           │     +--rw route-type               mvpn-route-type
```

```
      |              |        +--rw route-key                   binary
      |              |        +--rw origin-router-ip-addr    inet:ip-prefix
      |              +--:(SOURCE_ACTIVE_AD)
      |              |  +--rw source-active-ad-route*
         [route-type route-distinguisher multicast-source multicast-group]
      |              |        +--rw route-type              mvpn-route-type
      |              |        +--rw route-distinguisher route-distinguisher-def
      |              |        +--rw multicast-source        inet:ip-prefix
      |              |        +--rw multicast-group         inet:ip-prefix
      |              +--:(SHARED_TREE_JOIN)
      |              |  +--rw shared-tree-join-route*
                         [route-type route-distinguisher source-as
                                  multicast-source multicast-group]
      |              |        +--rw route-type              mvpn-route-type
      |              |        +--rw route-distinguisher route-distinguisher-def
      |              |        +--rw source-as               inet:as-number
      |              |        +--rw multicast-source        inet:ip-prefix
      |              |        +--rw multicast-group         inet:ip-prefix
      |              +--:(SOURCE_TREE_JOIN)
      |                 +--rw source-tree-join-route*
                          [route-type route-distinguisher source-as
                                   multicast-source multicast-group]
      |                       +--rw route-type              mvpn-route-type
      |                       +--rw route-distinguisher route-distinguisher-def
      |                       +--rw source-as               inet:as-number
      |                       +--rw multicast-source        inet:ip-prefix
      |                       +--rw multicast-group         inet:ip-prefix
      +--rw bgp-ipv6-mvpn-instance
      |  +--rw bgp-instance-name?     string
      |  +--rw bgp-instance-create?   enumeration
      |  +--rw bgp-instance-type?     enumeration
      |  +--rw bgp-vendor-type?       enumeration
      |  +--rw afi?                   afi-def
      |  +--rw safi?                  safi-def
      |  +--rw bgp-local-rib
      |  |  +--rw bgp-route-type?           enumeration
      |  |  +--rw route-admin-distance   uint16
      |  |  +--rw bgp-attribute-list
      |  |  |  +--rw bgp-origin?               enumeration
      |  |  |  +--rw bgp-aspath
      |  |  |  |  +--rw usascount?        uint16
      |  |  |  |  +--rw ulrefcount?       uint16
      |  |  |  |  +--rw asstring?         string
      |  |  |  |  +--ro usascountfrcomp?  uint16
      |  |  |  |  +--rw usastotalcount?   uint16
      |  |  |  |  +--rw usas4pathlen?     uint16
      |  |  |  |  +--rw as4pathvalue?     string
      |  |  |  +--rw bgp-nexthop?              inet:ip-address
```

```
 │  │   │   +--rw bgp-med?                      uint32
 │  │   │   +--rw bgp-localpref?                uint32
 │  │   │   +--rw bgp-atomic-aggregate?    uint32
 │  │   │   +--rw bgp-aggregator
 │  │   │   │  +--rw ulipaddress?   uint32
 │  │   │   │  +--rw ulasnumber?    uint32
 │  │   │   +--rw bgp-commattr
 │  │   │   │  +--rw uscommsize?         uint16
 │  │   │   │  +--rw ulrefcomm?          uint32
 │  │   │   │  +--rw commattr-value?     string
 │  │   │   +--rw bgp-extcommattr
 │  │   │   │  +--rw custom-community
 │  │   │   │  │  +--rw valid                boolean
 │  │   │   │  │  +--rw insertion-point uint32
 │  │   │   │  │  +--rw community-id         uint8
 │  │   │   │  │  +--rw cost-id              uint32
 │  │   │   │  +--rw usextcommsize?      uint16
 │  │   │   │  +--rw ulrefcount?         uint32
 │  │   │   │  +--rw extcommattr-value?  string
 │  │   │   +--rw bgp-clusterlist
 │  │   │   │  +--rw uscluslen?          uint16
 │  │   │   │  +--rw ulrefclus?          uint32
 │  │   │   │  +--rw clusterlist-value?  string
 │  │   │   +--rw bgp-originator-id?     uint32
 │  │   +--ro bgp-route-create?           enumeration
 │  │   +--ro bgp-rt-state-info
 │  │   │  +--ro rib-current-state?    rib-state-def
 │  │   │  +--ro rib-last-state?       rib-state-def
 │  │   │  +--ro rib-rejected-reason?  enumeration
 │  │   │  +--ro not-preferred-reason? enumeration
 │  │   +--rw (bgp-mvpn-route-type)?
 │  │      +--:(INTRA_AS_I_PMSI_AD)
 │  │      │  +--rw intra-as-i-pmsi-ad-route*
 │  │          [route-type route-distinguisher origin-router-ip-addr]
 │  │      │     +--rw route-type          mvpn-route-type
 │  │      │     +--rw route-distinguisher route-distinguisher-def
 │  │      │     +--rw origin-router-ip-addr    inet:ip-prefix
 │  │      +--:(INTER_AS_I_PMSI_AD)
 │  │      │  +--rw inter_as_i_pmsi_as_route*
 │  │                 [route-type route-distinguisher source-as]
 │  │      │     +--rw route-type          mvpn-route-type
 │  │      │     +--rw route-distinguisher route-distinguisher-def
 │  │      │     +--rw source-as               inet:as-number
 │  │      +--:(S_PMSI_AD)
 │  │      │  +--rw s-pmsi-ad-route*
 │  │        [route-type route-distinguisher multicast-source
 │  │                 multicast-group origin-router-ip-addr]
 │  │      │     +--rw route-type          mvpn-route-type
```

```
         |  |      |    +--rw route-distinguisher route-distinguisher-def
         |  |      |    +--rw multicast-source       inet:ip-prefix
         |  |      |    +--rw multicast-group        inet:ip-prefix
         |  |      |    +--rw origin-router-ip-addr   inet:ip-prefix
         |  |      +--:(LEAF_AD)
         |  |      |  +--rw leaf-ad-route*
         |  |      |          [route-type route-key origin-router-ip-addr]
         |  |      |     +--rw route-type             mvpn-route-type
         |  |      |     +--rw route-key              binary
         |  |      |     +--rw origin-router-ip-addr   inet:ip-prefix
         |  |      +--:(SOURCE_ACTIVE_AD)
         |  |      |  +--rw source-active-ad-route*
         |  |      |          [route-type route-distinguisher
         |  |      |               multicast-source multicast-group]
         |  |      |     +--rw route-type             mvpn-route-type
         |  |      |     +--rw route-distinguisher route-distinguisher-def
         |  |      |     +--rw multicast-source       inet:ip-prefix
         |  |      |     +--rw multicast-group        inet:ip-prefix
         |  |      +--:(SHARED_TREE_JOIN)
         |  |      |  +--rw shared-tree-join-route*
         |  |      |          [route-type route-distinguisher
         |  |      |                source-as multicast-source multicast-group]
         |  |      |     +--rw route-type             mvpn-route-type
         |  |      |     +--rw route-distinguisher    route-distinguisher-def
         |  |      |     +--rw source-as              inet:as-number
         |  |      |     +--rw multicast-source       inet:ip-prefix
         |  |      |     +--rw multicast-group        inet:ip-prefix
         |  |      +--:(SOURCE_TREE_JOIN)
         |  |         +--rw source-tree-join-route*
         |  |                 [route-type route-distinguisher source-as
         |  |                       multicast-source multicast-group]
         |  |            +--rw route-type             mvpn-route-type
         |  |            +--rw route-distinguisher route-distinguisher-def
         |  |            +--rw source-as              inet:as-number
         |  |            +--rw multicast-source    inet:ip-prefix
         |  |            +--rw multicast-group     inet:ip-prefix
         |  +--rw bgp-peer-list* [bgp-peer-name]
         |     +--rw peer-session-address
         |     |  +--rw local-ipv6-address?    inet:ipv6-prefix
         |     |  +--rw remote-ipv6-address?   inet:ipv6-prefix
         |     +--rw bgp-peer-name              string
         |     +--ro bgp-peer-type?             enumeration
         |     +--ro bgp-peer-create?           enumeration
         |     +--rw bgp-policy-in
         |     +--rw bgp-policy-out
         |     +--ro peer-policy-in-pset
         |     +--ro peer-policy-out-pset
         |     +--rw peer-state-info
```

```
│    │       +--ro peer-current-state?         peer-state
│    │       +--ro peer-last-state?            peer-state
│    │       +--ro peer-down-reason
│    │       │  +--ro error-code?        enumeration
│    │       │  +--ro sub-error-code
│    │       │     +--ro (sub-error-code-type)?
│    │       │        +--:(head-error-sub-code)
│    │       │        │  +--ro head-error-sub-value?
│    │       │        │                     enumeration
│    │       │        +--:(open-error-sub-code)
│    │       │        │  +--ro open-error-sub-value?
│    │       │        │                     enumeration
│    │       │        +--:(update-error-sub-code)
│    │       │        │  +--ro update-error-sub-value?
│    │       │        │                     enumeration
│    │       │        +--:(route-refresh-error-sub-code)
│    │       │           +--ro route-refresh-error-sub-value?
│    │       │                              enumeration
│    │       +--ro peer-received-update-cnt?   uint64
│    │       +--ro peer-transmit-update-cnt?   uint64
│    │       +--ro peer-received-route-cnt?    uint64
│    │       +--ro peer-send-route-cnt?        uint64
│    │       +--rw max-prefix-rcv-limit?       uint64
│    │       +--rw max-prefix-xmt-limit?       uint64
│    │       +--ro peer-prefix-high?           uint64
│    │       +--ro peer-prefix-low?            uint64
│    │       +--ro peer-perfix-ave?            uint64
│    │       +--ro peer-prefix-time?           uint64
│    │       +--ro peer-prefix-max?            uint64
│    │       +--ro publish-version?            uint64
│    +--rw bgp-rib-in
│    │  +--rw bgp-route-type?       enumeration
│    │  +--rw route-admin-distance  uint16
│    │  +--rw bgp-attribute-list
│    │  │  +--rw bgp-origin?        enumeration
│    │  │  +--rw bgp-aspath
│    │  │  │  +--rw usascount?        uint16
│    │  │  │  +--rw ulrefcount?       uint16
│    │  │  │  +--rw asstring?         string
│    │  │  │  +--ro usascountfrcomp?  uint16
│    │  │  │  +--rw usastotalcount?   uint16
│    │  │  │  +--rw usas4pathlen?     uint16
│    │  │  │  +--rw as4pathvalue?     string
│    │  │  +--rw bgp-nexthop?   inet:ip-address
│    │  │  +--rw bgp-med?                 uint32
│    │  │  +--rw bgp-localpref?           uint32
│    │  │  +--rw bgp-atomic-aggregate?    uint32
│    │  │  +--rw bgp-aggregator
```

```
         │    │    │    │  +--rw ulipaddress?    uint32
         │    │    │    │  +--rw ulasnumber?     uint32
         │    │    │  +--rw bgp-commattr
         │    │    │  │  +--rw uscommsize?       uint16
         │    │    │  │  +--rw ulrefcomm?        uint32
         │    │    │  │  +--rw commattr-value?   string
         │    │    │  +--rw bgp-extcommattr
         │    │    │  │  +--rw custom-community
         │    │    │  │  +--rw valid             boolean
         │    │    │  │  +--rw insertion-point uint32
         │    │    │  │  +--rw community-id      uint8
         │    │    │  │  +--rw cost-id           uint32
         │    │    │  │  +--rw usextcommsize?    uint16
         │    │    │  │  +--rw ulrefcount?       uint32
         │    │    │  │  +--rw extcommattr-value?   string
         │    │    │  +--rw bgp-clusterlist
         │    │    │  │  +--rw uscluslen?        uint16
         │    │    │  │  +--rw ulrefclus?        uint32
         │    │    │  │  +--rw clusterlist-value?   string
         │    │    │  +--rw bgp-originator-id?    uint32
         │    │  +--ro bgp-route-create?              enumeration
         │    │  +--ro bgp-rt-state-info
         │    │  │  +--ro rib-current-state?    rib-state-def
         │    │  │  +--ro rib-last-state?       rib-state-def
         │    │  │  +--ro rib-rejected-reason?  enumeration
         │    │  │  +--ro not-preferred-reason?  enumeration
         │    │  +--rw (bgp-mvpn-route-type)?
         │    │      +--:(INTRA_AS_I_PMSI_AD)
         │    │      │  +--rw intra-as-i-pmsi-ad-route*
       [route-type route-distinguisher origin-router-ip-addr]
         │    │      │     +--rw route-type          mvpn-route-type
         │    │      │     +--rw route-distinguisher route-distinguisher-def
         │    │      │     +--rw origin-router-ip-addr    inet:ip-prefix
         │    │      +--:(INTER_AS_I_PMSI_AD)
         │    │      │  +--rw inter_as_i_pmsi_as_route*
               [route-type route-distinguisher source-as]
         │    │      │     +--rw route-type          mvpn-route-type
         │    │      │     +--rw route-distinguisher route-distinguisher-def
         │    │      │     +--rw source-as           inet:as-number
         │    │      +--:(S_PMSI_AD)
         │    │      │  +--rw s-pmsi-ad-route*
               [route-type route-distinguisher multicast-source
                       multicast-group origin-router-ip-addr]
         │    │      │     +--rw route-type          mvpn-route-type
         │    │      │     +--rw route-distinguisher  route-distinguisher-def
         │    │      │     +--rw multicast-source     inet:ip-prefix
         │    │      │     +--rw multicast-group      inet:ip-prefix
         │    │      │     +--rw origin-router-ip-addr   inet:ip-prefix
```

```
   |      |            +--:(LEAF_AD)
   |      |            |  +--rw leaf-ad-route*
   |            [route-type route-key origin-router-ip-addr]
   |      |      |        +--rw route-type                mvpn-route-type
   |      |      |        +--rw route-key                 binary
   |      |      |        +--rw origin-router-ip-addr    inet:ip-prefix
   |      |      +--:(SOURCE_ACTIVE_AD)
   |      |      |  +--rw source-active-ad-route*
   |                   [route-type route-distinguisher
   |                      multicast-source multicast-group]
   |      |      |        +--rw route-type          mvpn-route-type
   |      |      |        +--rw route-distinguisher route-distinguisher-def
   |      |      |        +--rw multicast-source    inet:ip-prefix
   |      |      |        +--rw multicast-group     inet:ip-prefix
   |      |      +--:(SHARED_TREE_JOIN)
   |      |      |  +--rw shared-tree-join-route*
   |                 [route-type route-distinguisher source-as
   |                          multicast-source multicast-group]
   |      |      |        +--rw route-type          mvpn-route-type
   |      |      |        +--rw route-distinguisher route-distinguisher-def
   |      |      |        +--rw source-as           inet:as-number
   |      |      |        +--rw multicast-source    inet:ip-prefix
   |      |      |        +--rw multicast-group     inet:ip-prefix
   |      |      +--:(SOURCE_TREE_JOIN)
   |      |         +--rw source-tree-join-route*
   |                   [route-type route-distinguisher source-as
   |                          multicast-source multicast-group]
   |      |         +--rw route-type          mvpn-route-type
   |      |         +--rw route-distinguisher route-distinguisher-def
   |      |         +--rw source-as           inet:as-number
   |      |         +--rw multicast-source    inet:ip-prefix
   |      |         +--rw multicast-group     inet:ip-prefix
   |      +--rw bgp-rib-out
   |         +--rw bgp-route-type?           enumeration
   |         +--rw route-admin-distance  uint16
   |         +--rw bgp-attribute-list
   |         |  +--rw bgp-origin?           enumeration
   |         |  +--rw bgp-aspath
   |         |  |  +--rw usascount?        uint16
   |         |  |  +--rw ulrefcount?       uint16
   |         |  |  +--rw asstring?         string
   |         |  |  +--ro usascountfrcomp?  uint16
   |         |  |  +--rw usastotalcount?   uint16
   |         |  |  +--rw usas4pathlen?     uint16
   |         |  |  +--rw as4pathvalue?     string
   |         |  +--rw bgp-nexthop?          inet:ip-address
   |         |  +--rw bgp-med?              uint32
   |         |  +--rw bgp-localpref?        uint32
```

```
     │         │  +--rw bgp-atomic-aggregate?   uint32
     │         │  +--rw bgp-aggregator
     │         │  │  +--rw ulipaddress?   uint32
     │         │  │  +--rw ulasnumber?    uint32
     │         │  +--rw bgp-commattr
     │         │  │  +--rw uscommsize?        uint16
     │         │  │  +--rw ulrefcomm?         uint32
     │         │  │  +--rw commattr-value?    string
     │         │  +--rw bgp-extcommattr
     │         │  │  +--rw custom-community
     │         │  │  │  +--rw valid                boolean
     │         │  │  │  +--rw insertion-point uint32
     │         │  │  │  +--rw community-id        uint8
     │         │  │  │  +--rw cost-id             uint32
     │         │  │  +--rw usextcommsize?      uint16
     │         │  │  +--rw ulrefcount?         uint32
     │         │  │  +--rw extcommattr-value?  string
     │         │  +--rw bgp-clusterlist
     │         │  │  +--rw uscluslen?          uint16
     │         │  │  +--rw ulrefclus?          uint32
     │         │  │  +--rw clusterlist-value?  string
     │         │  +--rw bgp-originator-id?      uint32
     │         +--ro bgp-route-create?          enumeration
     │         +--ro bgp-rt-state-info
     │         │  +--ro rib-current-state?    rib-state-def
     │         │  +--ro rib-last-state?       rib-state-def
     │         │  +--ro rib-rejected-reason?  enumeration
     │         │  +--ro not-preferred-reason? enumeration
     │         +--rw (bgp-mvpn-route-type)?
     │            +--:(INTRA_AS_I_PMSI_AD)
     │            │  +--rw intra-as-i-pmsi-ad-route*
     │              [route-type route-distinguisher origin-router-ip-addr]
     │            │     +--rw route-type          mvpn-route-type
     │            │     +--rw route-distinguisher  route-distinguisher-def
     │            │     +--rw origin-router-ip-addr    inet:ip-prefix
     │            +--:(INTER_AS_I_PMSI_AD)
     │            │  +--rw inter_as_i_pmsi_as_route*
     │                    [route-type route-distinguisher source-as]
     │            │     +--rw route-type          mvpn-route-type
     │            │     +--rw route-distinguisher route-distinguisher-def
     │            │     +--rw source-as           inet:as-number
     │            +--:(S_PMSI_AD)
     │            │  +--rw s-pmsi-ad-route*
     │             [route-type route-distinguisher multicast-source
     │                    multicast-group origin-router-ip-addr]
     │            │     +--rw route-type          mvpn-route-type
     │            │     +--rw route-distinguisher route-distinguisher-def
     │            │     +--rw multicast-source    inet:ip-prefix
```

```
                    |         |         +--rw multicast-group           inet:ip-prefix
                    |         |         +--rw origin-router-ip-addr      inet:ip-prefix
                    |         +--:(LEAF_AD)
                    |         |  +--rw leaf-ad-route*
                    |                 [route-type route-key origin-router-ip-addr]
                    |         |         +--rw route-type                 mvpn-route-type
                    |         |         +--rw route-key                  binary
                    |         |         +--rw origin-router-ip-addr      inet:ip-prefix
                    |         +--:(SOURCE_ACTIVE_AD)
                    |         |  +--rw source-active-ad-route*
                    |                 [route-type route-distinguisher
                    |                     multicast-source multicast-group]
                    |         |         +--rw route-type              mvpn-route-type
                    |         |         +--rw route-distinguisher route-distinguisher-def
                    |         |         +--rw multicast-source        inet:ip-prefix
                    |         |         +--rw multicast-group         inet:ip-prefix
                    |         +--:(SHARED_TREE_JOIN)
                    |         |  +--rw shared-tree-join-route*
                    |            [route-type route-distinguisher source-as
                    |                    multicast-source multicast-group]
                    |         |         +--rw route-type              mvpn-route-type
                    |         |         +--rw route-distinguisher route-distinguisher-def
                    |         |         +--rw source-as               inet:as-number
                    |         |         +--rw multicast-source        inet:ip-prefix
                    |         |         +--rw multicast-group         inet:ip-prefix
                    |         +--:(SOURCE_TREE_JOIN)
                    |            +--rw source-tree-join-route*
                    |            [route-type route-distinguisher source-as
                    |                     multicast-source multicast-group]
                    |         |         +--rw route-type              mvpn-route-type
                    |                   +--rw route-distinguisher route-distinguisher-def
                    |                   +--rw source-as               inet:as-number
                    |                   +--rw multicast-source        inet:ip-prefix
                    |                   +--rw multicast-group         inet:ip-prefix
          +--rw bgp-mcast-vpls-instance
          |  +--rw bgp-instance-name?      string
          |  +--rw bgp-instance-create?    enumeration
          |  +--rw bgp-instance-type?      enumeration
          |  +--rw bgp-vendor-type?        enumeration
          |  +--rw afi?                    afi-def
          |  +--rw safi?                   safi-def
          |  +--rw bgp-local-rib
          |  |  +--rw bgp-route-type?       enumeration
          |  |  +--rw route-admin-distance  uint16
          |  |  +--rw bgp-attribute-list
          |  |  |  +--rw bgp-origin?        enumeration
          |  |  |  +--rw bgp-aspath
          |  |  |  |  +--rw usascount?         uint16
```

```
│  │  │   │   +--rw ulrefcount?         uint16
│  │  │   │   +--rw asstring?           string
│  │  │   │   +--ro usascountfrcomp?    uint16
│  │  │   │   +--rw usastotalcount?     uint16
│  │  │   │   +--rw usas4pathlen?       uint16
│  │  │   │   +--rw as4pathvalue?       string
│  │  │   +--rw bgp-nexthop?   inet:ip-address
│  │  │   +--rw bgp-med?                   uint32
│  │  │   +--rw bgp-localpref?             uint32
│  │  │   +--rw bgp-atomic-aggregate?   uint32
│  │  │   +--rw bgp-aggregator
│  │  │   │   +--rw ulipaddress?   uint32
│  │  │   │   +--rw ulasnumber?    uint32
│  │  │   +--rw bgp-commattr
│  │  │   │   +--rw uscommsize?        uint16
│  │  │   │   +--rw ulrefcomm?         uint32
│  │  │   │   +--rw commattr-value?    string
│  │  │   +--rw bgp-extcommattr
│  │  │   │   +--rw custom-community
│  │  │   │   │   +--rw valid              boolean
│  │  │   │   │   +--rw insertion-point uint32
│  │  │   │   │   +--rw community-id       uint8
│  │  │   │   │   +--rw cost-id            uint32
│  │  │   │   +--rw usextcommsize?     uint16
│  │  │   │   +--rw ulrefcount?        uint32
│  │  │   │   +--rw extcommattr-value?    string
│  │  │   +--rw bgp-clusterlist
│  │  │   │   +--rw uscluslen?         uint16
│  │  │   │   +--rw ulrefclus?         uint32
│  │  │   │   +--rw clusterlist-value?    string
│  │  │   +--rw bgp-originator-id?       uint32
│  │   +--ro bgp-route-create?          enumeration
│  │   +--ro bgp-rt-state-info
│  │   │   +--ro rib-current-state?    rib-state-def
│  │   │   +--ro rib-last-state?       rib-state-def
│  │   │   +--ro rib-rejected-reason?    enumeration
│  │   │   +--ro not-preferred-reason?   enumeration
│  │   +--rw (bgp-mcast-vpls-route-type)?
│  │      +--:(SELECTIVE_TREE_AD_ROUTE)
│  │      │   +--rw selective-tree-ad-route
      [route-type route-distinguisher multicast-source
             multicast-group origin-router-ip-addr]
│  │      │      +--rw route-type         mcast-vpls-route-type
│  │      │      +--rw route-distinguisher
                                route-distinguisher-def
│  │      │      +--rw multicast-source       inet:ip-prefix
│  │      │      +--rw multicast-group        inet:ip-prefix
│  │      │      +--rw origin-router-ip-addr    inet:ip-prefix
```

```
     |   |         +--:(LEAF_AD)
     |   |            +--rw leaf-ad-route*
     |   |                 [route-type route-key origin-router-ip-addr]
     |   |               +--rw route-type          mcast-vpls-route-type
     |   |               +--rw route-key            binary
     |   |               +--rw origin-router-ip-addr    inet:ip-prefix
     |   +--rw bgp-peer-list* [bgp-peer-name]
     |      +--rw peer-session-address
     |      |  +--rw local-ipv4-address?    inet:ipv4-prefix
     |      |  +--rw remote-ipv4-address?   inet:ipv4-prefix
     |      +--rw bgp-peer-name               string
     |      +--ro bgp-peer-type?              enumeration
     |      +--ro bgp-peer-create?            enumeration
     |      +--rw bgp-policy-in
     |      +--rw bgp-policy-out
     |      +--ro peer-policy-in-pset
     |      +--ro peer-policy-out-pset
     |      +--rw peer-state-info
     |      |  +--ro peer-current-state?         peer-state
     |      |  +--ro peer-last-state?            peer-state
     |      |  +--ro peer-down-reason
     |      |  |  +--ro error-code?       enumeration
     |      |  |  +--ro sub-error-code
     |      |  |     +--ro (sub-error-code-type)?
     |      |  |        +--:(head-error-sub-code)
     |      |  |        |  +--ro head-error-sub-value?
     |      |  |        |                     enumeration
     |      |  |        +--:(open-error-sub-code)
     |      |  |        |  +--ro open-error-sub-value?
     |      |  |        |                     enumeration
     |      |  |        +--:(update-error-sub-code)
     |      |  |        |  +--ro update-error-sub-value?
     |      |  |        |                     enumeration
     |      |  |        +--:(route-refresh-error-sub-code)
     |      |  |           +--ro route-refresh-error-sub-value?
     |      |  |                              enumeration
     |      |  +--ro peer-received-update-cnt?    uint64
     |      |  +--ro peer-transmit-update-cnt?    uint64
     |      |  +--ro peer-received-route-cnt?     uint64
     |      |  +--ro peer-send-route-cnt?         uint64
     |      |  +--rw max-prefix-rcv-limit?        uint64
     |      |  +--rw max-prefix-xmt-limit?        uint64
     |      |  +--ro peer-prefix-high?            uint64
     |      |  +--ro peer-prefix-low?             uint64
     |      |  +--ro peer-perfix-ave?             uint64
     |      |  +--ro peer-prefix-time?            uint64
     |      |  +--ro peer-prefix-max?             uint64
     |      |  +--ro publish-version?             uint64
```

```
         │        +--rw bgp-rib-in
         │        │  +--rw bgp-route-type?        enumeration
         │        │  +--rw route-admin-distance   uint16
         │        │  +--rw bgp-attribute-list
         │        │  │  +--rw bgp-origin?         enumeration
         │        │  │  +--rw bgp-aspath
         │        │  │  │  +--rw usascount?         uint16
         │        │  │  │  +--rw ulrefcount?        uint16
         │        │  │  │  +--rw asstring?          string
         │        │  │  │  +--ro usascountfrcomp?   uint16
         │        │  │  │  +--rw usastotalcount?    uint16
         │        │  │  │  +--rw usas4pathlen?      uint16
         │        │  │  │  +--rw as4pathvalue?      string
         │        │  │  +--rw bgp-nexthop?            inet:ip-address
         │        │  │  +--rw bgp-med?                uint32
         │        │  │  +--rw bgp-localpref?          uint32
         │        │  │  +--rw bgp-atomic-aggregate?   uint32
         │        │  │  +--rw bgp-aggregator
         │        │  │  │  +--rw ulipaddress?   uint32
         │        │  │  │  +--rw ulasnumber?    uint32
         │        │  │  +--rw bgp-commattr
         │        │  │  │  +--rw uscommsize?        uint16
         │        │  │  │  +--rw ulrefcomm?         uint32
         │        │  │  │  +--rw commattr-value?    string
         │        │  │  +--rw bgp-extcommattr
         │        │  │  │  +--rw custom-community
         │        │  │  │  │  +--rw valid              boolean
         │        │  │  │  │  +--rw insertion-point uint32
         │        │  │  │  │  +--rw community-id       uint8
         │        │  │  │  │  +--rw cost-id            uint32
         │        │  │  │  +--rw usextcommsize?     uint16
         │        │  │  │  +--rw ulrefcount?        uint32
         │        │  │  │  +--rw extcommattr-value? string
         │        │  │  +--rw bgp-clusterlist
         │        │  │  │  +--rw uscluslen?         uint16
         │        │  │  │  +--rw ulrefclus?         uint32
         │        │  │  │  +--rw clusterlist-value? string
         │        │  │  +--rw bgp-originator-id?      uint32
         │        │  +--ro bgp-route-create?          enumeration
         │        │  +--ro bgp-rt-state-info
         │        │  │  +--ro rib-current-state?     rib-state-def
         │        │  │  +--ro rib-last-state?        rib-state-def
         │        │  │  +--ro rib-rejected-reason?   enumeration
         │        │  │  +--ro not-preferred-reason?  enumeration
         │        │  +--rw (bgp-mcast-vpls-route-type)?
         │        │     +--:(SELECTIVE_TREE_AD_ROUTE)
         │        │     │  +--rw selective-tree-ad-route*
                      [route-type route-distinguisher multicast-source
```

```
                          multicast-group origin-router-ip-addr]
|     |     |        +--rw route-type       mcast-vpls-route-type
|     |     |        +--rw route-distinguisher
|     |     |                 route-distinguisher-def
|     |     |        +--rw multicast-source      inet:ip-prefix
|     |     |        +--rw multicast-group       inet:ip-prefix
|     |     |        +--rw origin-router-ip-addr  inet:ip-prefix
|     |   +--:(LEAF_AD)
|     |        +--rw leaf-ad-route*
|     |           [route-type route-key origin-router-ip-addr]
|     |           +--rw route-type       mcast-vpls-route-type
|     |           +--rw route-key        binary
|     |           +--rw origin-router-ip-addr  inet:ip-prefix
|     +--rw bgp-rib-out
|        +--rw bgp-route-type?       enumeration
|        +--rw route-admin-distance  uint16
|        +--rw bgp-attribute-list
|        |  +--rw bgp-origin?       enumeration
|        |  +--rw bgp-aspath
|        |  |  +--rw usascount?       uint16
|        |  |  +--rw ulrefcount?      uint16
|        |  |  +--rw asstring?        string
|        |  |  +--ro usascountfrcomp?  uint16
|        |  |  +--rw usastotalcount?  uint16
|        |  |  +--rw usas4pathlen?    uint16
|        |  |  +--rw as4pathvalue?    string
|        |  +--rw bgp-nexthop?           inet:ip-address
|        |  +--rw bgp-med?              uint32
|        |  +--rw bgp-localpref?        uint32
|        |  +--rw bgp-atomic-aggregate?  uint32
|        |  +--rw bgp-aggregator
|        |  |  +--rw ulipaddress?   uint32
|        |  |  +--rw ulasnumber?    uint32
|        |  +--rw bgp-commattr
|        |  |  +--rw uscommsize?       uint16
|        |  |  +--rw ulrefcomm?        uint32
|        |  |  +--rw commattr-value?   string
|        |  +--rw bgp-extcommattr
|        |  |  +--rw custom-community
|        |  |  |  +--rw valid              boolean
|        |  |  |  +--rw insertion-point uint32
|        |  |  |  +--rw community-id       uint8
|        |  |  |  +--rw cost-id            uint32
|        |  |  +--rw usextcommsize?      uint16
|        |  |  +--rw ulrefcount?         uint32
|        |  |  +--rw extcommattr-value?  string
|        |  +--rw bgp-clusterlist
|        |  |  +--rw uscluslen?           uint16
```

```
       |        |  |  +--rw ulrefclus?          uint32
       |        |  |  +--rw clusterlist-value?  string
       |        |  +--rw bgp-originator-id?     uint32
       |      +--ro bgp-route-create?           enumeration
       |      +--ro bgp-rt-state-info
       |      |  +--ro rib-current-state?       rib-state-def
       |      |  +--ro rib-last-state?          rib-state-def
       |      |  +--ro rib-rejected-reason?     enumeration
       |      |  +--ro not-preferred-reason?    enumeration
       |      +--rw (bgp-mcast-vpls-route-type)?
       |         +--:(SELECTIVE_TREE_AD_ROUTE)
       |         |  +--rw selective-tree-ad-route*
       |           [route-type route-distinguisher multicast-source
       |                 multicast-group origin-router-ip-addr]
       |         |        +--rw route-type         mcast-vpls-route-type
       |         |        +--rw route-distinguisher route-distinguisher-def
       |         |        +--rw multicast-source    inet:ip-prefix
       |         |        +--rw multicast-group     inet:ip-prefix
       |         |        +--rw origin-router-ip-addr inet:ip-prefix
       |         +--:(LEAF_AD)
       |            +--rw leaf-ad-route*
       |                 [route-type route-key origin-router-ip-addr]
       |               +--rw route-type      mcast-vpls-route-type
       |               +--rw route-key       binary
       |               +--rw origin-router-ip-addr  inet:ip-prefix
       +--rw bgp-evpn-instance
          +--rw bgp-instance-name?      string
          +--rw bgp-instance-create?    enumeration
          +--rw bgp-instance-type?      enumeration
          +--rw bgp-vendor-type?        enumeration
          +--rw afi?                    afi-def
          +--rw safi?                   safi-def
          +--rw bgp-local-rib
          |  +--rw bgp-route-type?        enumeration
          |  +--rw route-admin-distance   uint16
          |  +--rw bgp-attribute-list
          |  |  +--rw bgp-origin?         enumeration
          |  |  +--rw bgp-aspath
          |  |  |  +--rw usascount?        uint16
          |  |  |  +--rw ulrefcount?       uint16
          |  |  |  +--rw asstring?         string
          |  |  |  +--ro usascountfrcomp?  uint16
          |  |  |  +--rw usastotalcount?   uint16
          |  |  |  +--rw usas4pathlen?     uint16
          |  |  |  +--rw as4pathvalue?     string
          |  |  +--rw bgp-nexthop?           inet:ip-address
          |  |  +--rw bgp-med?               uint32
          |  |  +--rw bgp-localpref?         uint32
```

```
      │  │    +--rw bgp-atomic-aggregate?   uint32
      │  │    +--rw bgp-aggregator
      │  │    │  +--rw ulipaddress?   uint32
      │  │    │  +--rw ulasnumber?    uint32
      │  │    +--rw bgp-commattr
      │  │    │  +--rw uscommsize?        uint16
      │  │    │  +--rw ulrefcomm?         uint32
      │  │    │  +--rw commattr-value?    string
      │  │    +--rw bgp-extcommattr
      │  │    │  +--rw custom-community
      │  │    │  │  +--rw valid                boolean
      │  │    │  │  +--rw insertion-point uint32
      │  │    │  │  +--rw community-id         uint8
      │  │    │  │  +--rw cost-id              uint32
      │  │    │  +--rw usextcommsize?       uint16
      │  │    │  +--rw ulrefcount?          uint32
      │  │    │  +--rw extcommattr-value?   string
      │  │    +--rw bgp-clusterlist
      │  │    │  +--rw uscluslen?           uint16
      │  │    │  +--rw ulrefclus?           uint32
      │  │    │  +--rw clusterlist-value?   string
      │  │    +--rw bgp-originator-id?       uint32
      │  +--ro bgp-route-create?               enumeration
      │  +--ro bgp-rt-state-info
      │  │  +--ro rib-current-state?     rib-state-def
      │  │  +--ro rib-last-state?        rib-state-def
      │  │  +--ro rib-rejected-reason?   enumeration
      │  │  +--ro not-preferred-reason?  enumeration
      │  +--rw (bgp-evpn-route-type)?
      │     +--:(EVPN_AD_ROUTE)
      │     │  +--rw evpn-ad-route*
      │       [route-type route-distinguisher esi eth-tag-id]
      │     │        +--rw route-type           evpn-route-type
      │     │        +--rw route-distinguisher route-distinguisher-def
      │     │        +--rw esi                   string
      │     │        +--rw eth-tag-id            uint32
      │     +--:(EVPN_MAC_ROUTE)
      │     │  +--rw evpn-mac-route*
      │       [route-type route-distinguisher esi eth-tag-id
      │     mac-length mac-address ip-address-length ip-address]
      │     │        +--rw route-type           evpn-route-type
      │     │        +--rw route-distinguisher route-distinguisher-def
      │     │        +--rw esi                   string
      │     │        +--rw eth-tag-id            uint32
      │     │        +--rw mac-length            uint8
      │     │        +--rw mac-address           yang:mac-address
      │     │        +--rw ip-address-length     uint8
      │     │        +--rw ip-address            inet:ip-address
```

```
        |     |      +--rw label1?              uint32
        |     |      +--rw label2?              uint32
        |     +--:(EVPN_INC_MCAST_TREE)
        |     |   +--rw evpn-inc-mcast-tree-route*
        |        [route-type route-distinguisher eth-tag-id
        |           ip-address-length origin-router-ip-addr]
        |     |      +--rw route-type           evpn-route-type
        |     |      +--rw route-distinguisher route-distinguisher-def
        |     |      +--rw eth-tag-id           uint32
        |     |      +--rw ip-address-length    uint8
        |     |      +--rw origin-router-ip-addr  inet:ip-prefix
        |     +--:(EVPN_ETH_SEGMENT_ROUTE)
        |        +--rw evpn-eth-segment-route*
        |              [route-type route-distinguisher esi
        |                 ip-address-length origin-router-ip-addr]
        |           +--rw route-type           evpn-route-type
        |           +--rw route-distinguisher  route-distinguisher-def
        |           +--rw esi                  string
        |           +--rw ip-address-length    uint8
        |           +--rw origin-router-ip-addr inet:ip-prefix
      +--rw bgp-peer-list* [bgp-peer-name]
         +--rw peer-session-address
         |  +--rw local-ipv4-address?  inet:ipv4-prefix
         |  +--rw remote-ipv4-address? inet:ipv4-prefix
         +--rw bgp-peer-name              string
         +--ro bgp-peer-type?             enumeration
         +--ro bgp-peer-create?           enumeration
         +--rw bgp-policy-in
         +--rw bgp-policy-out
         +--ro peer-policy-in-pset
         +--ro peer-policy-out-pset
         +--rw peer-state-info
         |  +--ro peer-current-state?        peer-state
         |  +--ro peer-last-state?           peer-state
         |  +--ro peer-down-reason
         |  |  +--ro error-code?        enumeration
         |  |  +--ro sub-error-code
         |  |     +--ro (sub-error-code-type)?
         |  |        +--:(head-error-sub-code)
         |  |        |  +--ro head-error-sub-value? enumeration
         |  |        +--:(open-error-sub-code)
         |  |        |  +--ro open-error-sub-value? enumeration
         |  |        +--:(update-error-sub-code)
         |  |        |  +--ro update-error-sub-value? enumeration
         |  |        +--:(route-refresh-error-sub-code)
         |  |           +--ro route-refresh-error-sub-value?
         |  |                                       enumeration
         |  +--ro peer-received-update-cnt?    uint64
```

```
        |   +--ro peer-transmit-update-cnt?   uint64
        |   +--ro peer-received-route-cnt?    uint64
        |   +--ro peer-send-route-cnt?        uint64
        |   +--rw max-prefix-rcv-limit?       uint64
        |   +--rw max-prefix-xmt-limit?       uint64
        |   +--ro peer-prefix-high?           uint64
        |   +--ro peer-prefix-low?            uint64
        |   +--ro peer-perfix-ave?            uint64
        |   +--ro peer-prefix-time?           uint64
        |   +--ro peer-prefix-max?            uint64
        |   +--ro publish-version?            uint64
        +--rw bgp-rib-in
        |   +--rw bgp-route-type?        enumeration
        |   +--rw route-admin-distance   uint16
        |   +--rw bgp-attribute-list
        |   |   +--rw bgp-origin?        enumeration
        |   |   +--rw bgp-aspath
        |   |   |   +--rw usascount?        uint16
        |   |   |   +--rw ulrefcount?       uint16
        |   |   |   +--rw asstring?         string
        |   |   |   +--ro usascountfrcomp?  uint16
        |   |   |   +--rw usastotalcount?   uint16
        |   |   |   +--rw usas4pathlen?     uint16
        |   |   |   +--rw as4pathvalue?     string
        |   |   +--rw bgp-nexthop?           inet:ip-address
        |   |   +--rw bgp-med?               uint32
        |   |   +--rw bgp-localpref?         uint32
        |   |   +--rw bgp-atomic-aggregate?  uint32
        |   |   +--rw bgp-aggregator
        |   |   |   +--rw ulipaddress?  uint32
        |   |   |   +--rw ulasnumber?   uint32
        |   |   +--rw bgp-commattr
        |   |   |   +--rw uscommsize?       uint16
        |   |   |   +--rw ulrefcomm?        uint32
        |   |   |   +--rw commattr-value?   string
        |   |   +--rw bgp-extcommattr
        |   |   |   +--rw custom-community
        |   |   |   |   +--rw valid               boolean
        |   |   |   |   +--rw insertion-point uint32
        |   |   |   |   +--rw community-id        uint8
        |   |   |   |   +--rw cost-id             uint32
        |   |   |   +--rw usextcommsize?      uint16
        |   |   |   +--rw ulrefcount?         uint32
        |   |   |   +--rw extcommattr-value?  string
        |   |   +--rw bgp-clusterlist
        |   |   |   +--rw uscluslen?         uint16
        |   |   |   +--rw ulrefclus?         uint32
        |   |   |   +--rw clusterlist-value? string
```

```
         |  | +--rw bgp-originator-id?       uint32
         | +--ro bgp-route-create?           enumeration
         | +--ro bgp-rt-state-info
         |  | +--ro rib-current-state?    rib-state-def
         |  | +--ro rib-last-state?       rib-state-def
         |  | +--ro rib-rejected-reason?  enumeration
         |  | +--ro not-preferred-reason? enumeration
         | +--rw (bgp-evpn-route-type)?
         |    +--:(EVPN_AD_ROUTE)
         |    | +--rw evpn-ad-route*
         |      [route-type route-distinguisher esi eth-tag-id]
         |    |    +--rw route-type          evpn-route-type
         |    |    +--rw route-distinguisher route-distinguisher-def
         |    |    +--rw esi                 string
         |    |    +--rw eth-tag-id          uint32
         |    +--:(EVPN_MAC_ROUTE)
         |    | +--rw evpn-mac-route*
         |        [route-type route-distinguisher esi eth-tag-id
         |      mac-length mac-address ip-address-length ip-address]
         |    |    +--rw route-type          evpn-route-type
         |    |    +--rw route-distinguisher route-distinguisher-def
         |    |    +--rw esi                 string
         |    |    +--rw eth-tag-id          uint32
         |    |    +--rw mac-length          uint8
         |    |    +--rw mac-address         yang:mac-address
         |    |    +--rw ip-address-length   uint8
         |    |    +--rw ip-address          inet:ip-address
         |    |    +--rw label1?             uint32
         |    |    +--rw label2?             uint32
         |    +--:(EVPN_INC_MCAST_TREE)
         |    | +--rw evpn-inc-mcast-tree-route*
         |        [route-type route-distinguisher eth-tag-id
         |          ip-address-length origin-router-ip-addr]
         |    |    +--rw route-type           evpn-route-type
         |    |    +--rw route-distinguisherroute-distinguisher-def
         |    |    +--rw eth-tag-id           uint32
         |    |    +--rw ip-address-length    uint8
         |    |    +--rw origin-router-ip-addr  inet:ip-prefix
         |    +--:(EVPN_ETH_SEGMENT_ROUTE)
         |       +--rw evpn-eth-segment-route*
         |          [route-type route-distinguisher esi
         |            ip-address-length origin-router-ip-addr]
         |       +--rw route-type          evpn-route-type
         |       +--rw route-distinguisher route-distinguisher-def
         |       +--rw esi                 string
         |       +--rw ip-address-length   uint8
         |       +--rw origin-router-ip-addr  inet:ip-prefix
       +--rw bgp-rib-out
```

```
             +--rw bgp-route-type?        enumeration
             +--rw route-admin-distance  uint16
             +--rw bgp-attribute-list
             |  +--rw bgp-origin?        enumeration
             |  +--rw bgp-aspath
             |  |  +--rw usascount?        uint16
             |  |  +--rw ulrefcount?       uint16
             |  |  +--rw asstring?         string
             |  |  +--ro usascountfrcomp?  uint16
             |  |  +--rw usastotalcount?   uint16
             |  |  +--rw usas4pathlen?     uint16
             |  |  +--rw as4pathvalue?     string
             |  +--rw bgp-nexthop?              inet:ip-address
             |  +--rw bgp-med?                 uint32
             |  +--rw bgp-localpref?           uint32
             |  +--rw bgp-atomic-aggregate?    uint32
             |  +--rw bgp-aggregator
             |  |  +--rw ulipaddress?   uint32
             |  |  +--rw ulasnumber?    uint32
             |  +--rw bgp-commattr
             |  |  +--rw uscommsize?       uint16
             |  |  +--rw ulrefcomm?        uint32
             |  |  +--rw commattr-value?   string
             |  +--rw bgp-extcommattr
             |  |  +--rw custom-community
             |  |  |  +--rw valid               boolean
             |  |  |  +--rw insertion-point uint32
             |  |  |  +--rw community-id        uint8
             |  |  |  +--rw cost-id             uint32
             |  |  +--rw usextcommsize?      uint16
             |  |  +--rw ulrefcount?         uint32
             |  |  +--rw extcommattr-value?  string
             |  +--rw bgp-clusterlist
             |  |  +--rw uscluslen?        uint16
             |  |  +--rw ulrefclus?        uint32
             |  |  +--rw clusterlist-value?  string
             |  +--rw bgp-originator-id?       uint32
             +--ro bgp-route-create?            enumeration
             +--ro bgp-rt-state-info
             |  +--ro rib-current-state?     rib-state-def
             |  +--ro rib-last-state?        rib-state-def
             |  +--ro rib-rejected-reason?   enumeration
             |  +--ro not-preferred-reason?  enumeration
             +--rw (bgp-evpn-route-type)?
                +--:(EVPN_AD_ROUTE)
                |  +--rw evpn-ad-route*
                 [route-type route-distinguisher esi eth-tag-id]
                |     +--rw route-type               evpn-route-type
```

```
                    |      +--rw route-distinguisher route-distinguisher-def
                    |      +--rw esi                 string
                    |      +--rw eth-tag-id           uint32
                    +--:(EVPN_MAC_ROUTE)
                    |   +--rw evpn-mac-route*
                    |    [route-type route-distinguisher esi eth-tag-id
                    |    mac-length mac-address ip-address-length ip-address]
                    |      +--rw route-type           evpn-route-type
                    |      +--rw route-distinguisher route-distinguisher-def
                    |      +--rw esi                 string
                    |      +--rw eth-tag-id           uint32
                    |      +--rw mac-length           uint8
                    |      +--rw mac-address          yang:mac-address
                    |      +--rw ip-address-length    uint8
                    |      +--rw ip-address           inet:ip-address
                    |      +--rw label1?              uint32
                    |      +--rw label2?              uint32
                    +--:(EVPN_INC_MCAST_TREE)
                    |   +--rw evpn-inc-mcast-tree-route*
                    |    [route-type route-distinguisher eth-tag-id
                    |            ip-address-length origin-router-ip-addr]
                    |      +--rw route-type               evpn-route-type
                    |      +--rw route-distinguisherroute-distinguisher-def
                    |      +--rw eth-tag-id               uint32
                    |      +--rw ip-address-length        uint8
                    |      +--rw origin-router-ip-addr    inet:ip-prefix
                    +--:(EVPN_ETH_SEGMENT_ROUTE)
                       +--rw evpn-eth-segment-route*
                              [route-type route-distinguisher esi
                               ip-address-length origin-router-ip-addr]
                       +--rw route-type               evpn-route-type
                       +--rw route-distinguisher   route-distinguisher-def
                       +--rw esi                       string
                       +--rw ip-address-length        uint8
                       +--rw origin-router-ip-addr    inet:ip-prefix
```

5. IANA Considerations

    This draft includes no request to IANA.

6. Security Considerations

    TBD.

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