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An I2RS BGP Data Model
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Abstract

This document introduces a yang data 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.

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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-bnp-info-model]. 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 Yang top-level description

Below is the full BGP Yang top-level description for the configuration portion of I2RS configuration model. Additional information on the structure of the information model is described in [I-D.hares-i2rs-bnp-info-model].

```

module: 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-agggregator
        +--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

```



```

+--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-agggregator
|       +---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 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
```



```
| | | +--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 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-nextthop?       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-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-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-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

```

4. BGP Yang description

```

//<code begins> file "i2rs bgp@2014-09-30.yang"

module bgp-protocol {

  namespace "urn:huawei:params:xml:ns:yang:rt:i2rs:bgp";
  // replace with iana namespace when assigned
  prefix "bgp-protocol";

  import ietf-inet-types {
    prefix inet;
    //rfc6991
  }
  import ietf-yang-types {
    prefix yang;
    //RFC6991
  }

  organization
    "huawei technologies co., ltd. ";
  contact
    "email: wanglixing@huawei.com
     email: shares@ndzh.com
     email: zhuangshunwan@huawei.com";

  description
    "
     terms and acronyms

     isis (isis):

```

```
ip (ip): internet protocol
ipv4 (ipv4):internet protocol version 4
ipv6 (ipv6): internet protocol version 6
metric(metric): multi exit discriminator
igp (igp): interior gateway protocol
mtu (mtu) maximum transmission unit
";
```

```
revision "2014-08-22" {
  description "initial revision";
  reference "draft-hares-i2rs-bgp-im-00";
}
```

```
/*common definition wanglixing*/
```

```
typedef afi-def {
  description
    "afi is address family,it can be write and read.";
  type enumeration {
    enum "ipv4";
    enum "ipv6";
    enum "l2vpn";
  }
}
```

```
typedef safi-def {
  description
    "afi is sub-address family,it can be write and read. ";
  type enumeration {
    enum "unicast";
    enum "multicast";
    enum "l3vpn";
    enum "mpls";
    enum "mvpn";
    enum "rt-constrain";
    enum "ipv4-flow-spec";
    enum "vpn4-flow-spec";
    enum "clns-vpn";
    enum "ng-mvpn";
    enum "mdt-safi";
  }
}
```

```
typedef mvpn-route-type {
  reference "http://tools.ietf.org/html/rfc6514#section-4";
  type enumeration {
    enum INTRA_AS_I_PMSI_AD {
      value 1;
    }
    enum INTER_AS_I_PMSI_AD {
      value 2;
    }
    enum S_PMSI_AD {
      value 3;
    }
    enum LEAF_AD {
      value 4;
    }
    enum SOURCE_ACTIVE_AD {
      value 5;
    }
    enum SHARED_TREE_JOIN {
      value 6;
    }
    enum SOURCE_TREE_JOIN {
      value 7;
    }
  }
}
```

```
typedef mcast-vpls-route-type {
  reference "http://tools.ietf.org/html/rfc7117#section-9.2";
  type enumeration {
    enum SELECTIVE_TREE_AD_ROUTE {
      value 3;
    }
    enum LEAF_AD {
      value 4;
    }
  }
}
```

```
typedef evpn-route-type {
  reference "draft-ietf-l2vpn-evpn-08";
  type enumeration {
    enum EVPN_AD_ROUTE {
      value 1;
    }
    enum EVPN_MAC_ROUTE {
      value 2;
    }
  }
}
```

```
        enum EVPN_INC_MCAST_TREE {
            value 3;
        }
        enum EVPN_ETH_SEGMENT_ROUTE {
            value 4;
        }
    }
}

typedef bgp-route-create-mode {
    description
        "the way of creating of bgp route.";
    type enumeration {
        enum "not-i2rs-route";
        enum "i2rsclient-create-bgp-route";
        enum "i2rsagent-fails-bgp-route-create";
        enum "i2rsagent-created-bgp-route";
        enum "i2rsagent-bgp-route-create";
        enum "i2rsagent-rejects-bgp-route-create";
        enum "i2rsagent-attempts-bgp-route-create";
    }
}

typedef bgp-route-type-def {
    type enumeration {
        enum "bgp-route-type-rd";
        enum "bgp-route-type-ipv4";
        enum "bgp-route-type-ipv6";
        enum "bgp-labeled-ipv4";
        enum "bgp-labeled-ipv6";
        enum "bgp-route-type-flow";
        enum "bgp-route-type-evpn";
        enum "bgp-route-type-mvpn";
        enum "bgp-route-type-vpls";
        enum "bgp-route-type-bgp-ls";
        enum "bgp-route-type-l2vpn-signaling-nlri";
        enum "bgp-rt-constraint";
        enum "pw-route";
    }
}

typedef peer-state {
    type enumeration {
        enum "established";
        enum "idle";
        enum "connect";
        enum "active";
        enum "open-send";
        enum "open-confirm";
    }
}
```

```
    }
  }

typedef rib-state-def {
  type enumeration {
    enum "active";
    enum "in-active";
    enum "primary";
    enum "backup";
    enum "suppress flap dampened";
    enum "suppress non-flap dampen";
    enum "active on altrenative best path";
  }
}

typedef mpls-label-def {
  description
    "label of the vrf.";
  type uint32 {
    range "16..1048574";
  }
}

typedef route-distinguisher-def {
  description
    "the route-distinguisher command configures a route distinguisher (rd)
    for the ipv4 or ipv6 address family of a vpn instance.
    format is asn:nn or ip-address:nn.";
  type string {
    length "3..21";
  }
}

grouping bgp-instance-common {
  description
    "the common structure of bgp instance.";

  leaf bgp-instance-name {
    type string;
  }

  leaf bgp-instance-create {
    type enumeration {
      enum "not-i2rs";
      enum "i2rsclient-create-bgp-instance";
      enum "i2rsagent-fails-bgp-instance-create";
      enum "i2rsagent-created-bgp-instance";
    }
  }
}
```



```
    enum "i2rsagent-bgp-instance-create";
    enum "i2rsagent-rejects-bgp-instance-create";
    enum "i2rsagent-attempts-bgp-instance-create";
  }
}

leaf bgp-instance-type {
  type enumeration {
    enum "bgp-ipv4-uni";
    enum "bgp-ipv4-multi";
    enum "bgp-ipv4-l3vpn";
    enum "bgp-ipv4-mvpn";
    enum "bgp-vpls";
    enum "bgp-mdt";
    enum "bgp-evpn";
    enum "bgp-ls";
    enum "bgp-ipv4-mpls-vpn";
    enum "bgp-ipv4-mpls-mvpn";
    enum "bgp-route-target";
    enum "bgp-ipv4-flow";
    enum "bgp-ipv4-vpn-flow";
    enum "bgp-ipv4-vrf-list";
    enum "bgp-ipv6-vrf-list";
    enum "bgp-ipv6-uni";
    enum "bgp-ipv6-vpnv6";
  }
}

leaf bgp-vendor-type {
  type enumeration {
    enum "cisco";
    enum "huawei";
  }
}

leaf afi {
  type afi-def;
}

leaf safi {
  type safi-def;
}
}

grouping bgp-route-common {
```

```
leaf bgp-route-type {
  type enumeration {
    enum "bgp-route-type-rd";
    enum "bgp-route-type-ipv4";
    enum "bgp-route-type-ipv6";
    enum "bgp-labeled-ipv4";
    enum "bgp-labeled-ipv6";
    enum "bgp-route-type-flow";
    enum "bgp-route-type-evpn";
    enum "bgp-route-type-mvpn";
    enum "bgp-route-type-vpls";
    enum "bgp-route-type-bgp-ls";
    enum "bgp-route-type-l2vpn-signaling-nlri";
    enum "bgp-rt-constraint";
    enum "pw-route";
  }
  leaf route-admin-distance
    byte uint16:
}

grouping bgp-ext-custom-community {
  leaf valid {
    description
      "valid custom community";

    type boolean;
  }
  leaf insertion-point {
    description
      "place community inserted.";

    type uint32;
  }
  leaf community-id {
    description
      "custom community identifier.";

    type uint8;
  }
  leaf cost-id {
    description
      "cost identifier.";

    leaf uint32;
  }
}
```

```
container bgp-attribute-list {
  leaf bgp-origin {
    type enumeration {
      enum "bgp-originattr-igp";
      enum "bgp-originattr-egp";
      enum "bgp-originattr-incomplete";
    }
  }
}

container bgp-aspath {
  leaf usascount {
    description
      "number of as's in the as path, exclude
      confed-sequence and confed-set.";

    type uint16;
  }
  leaf ulrefcount {
    description
      "reference count to this aspath.";

    type uint16;
  }
  leaf asstring {
    type string;
  }

  leaf usascountfrcomp {
    description
      "the count used for selecting best route,
      all as-seq + 1(if exist as-set) or 0 (if no as-set),
      ignore conf-as type.";

    config "false";
    type uint16;
  }

  leaf usastotalcount {
    description
      "for as-path-limit.";
    type uint16;
  }
  leaf usas4pathlen {
    description
      " length of pucas4pathvalue, tlv's l.";
    type uint16;
  }
}
```

```
    leaf as4pathvalue {
      type string;
    }

  } //end of "container bgp-aspath"

  leaf bgp-nexthop {
    type inet:ip-address;
  }

  leaf bgp-med {
    type uint32;
  }

  leaf bgp-localpref {
    type uint32;
  }

  leaf bgp-atomic-aggregate {
    type uint32;
  }

  container bgp-aggregator {
    leaf ulipaddress {
      description
        "ip address formed the aggregate route.";
      type uint32;
    }
    leaf ulasnumber {
      description
        "last as number that formed the aggregate route";
      type uint32;
    }
  }

  container bgp-commattr {

    leaf ulrefcomm {
      description
        "number of routes having the same community value.";

      type uint32;
    }
    leaf commattr-value {
      description
        "community value.";

      type string;
    }
  }
}
```

```
}

container custom-community {
  leaf valid {
    description
      "custom community is valid." ;

    type boolean;
  }
  leaf
container bgp-extcommattr {
  uses bgp-ext-custom-community;
  leaf usextcommsize {
    description
      "number of communities.";

    type uint16;
  }
  leaf ulrefcount {
    description
      "number of routes having the same community value.";

    type uint32;
  }
  leaf extcommattr-value {
    description
      "community value.";

    type string;
  }
} //end of "container bgp-extcommattr"

container bgp-clusterlist {
  leaf uscluslen {
    description
      "length of cluster list.";

    type uint16;
  }
  leaf ulrefclus {
    description
      "count of number of routes referring to this
      cluster list.";

    type uint32;
  }
  leaf clusterlist-value {
    description
```

```
        "cluster list values.";
    }
    type string;
}

leaf bgp-originator-id {
    description
        "ip address of the originator id.";

    type uint32;
}

leaf bgp-route-create {
    description
        "the way of creating of bgp route.";
    type enumeration {
        enum "not-i2rs-route";
        enum "i2rsclient-create-bgp-route";
        enum "i2rsagent-fails-bgp-route-create";
        enum "i2rsagent-created-bgp-route";
        enum "i2rsagent-bgp-route-create";
        enum "i2rsagent-rejects-bgp-route-create";
        enum "i2rsagent-attempts-bgp-route-create";
    }
    config false;
}

container bgp-rt-state-info {
    config false;
    leaf rib-current-state{
        type rib-state-def;
        config false;
    }
    leaf rib-last-state{
        type rib-state-def;
        config false;
    }
    leaf rib-rejected-reason {
        description
            "the way of creating of bgp route.";
        type enumeration {
            enum "peer-withdraw";
            enum "policy-results";
            enum "nexthop-unreachable";
        }
    }
}
```

```
        enum "malformed-peer-down";
        enum "malformed-discard";
        enum "malformed-ignore";
    }
    config false;
}
leaf not-preferred-reason {
    type enumeration {
        enum "peer-address";
        enum "router-id";
        enum "cluster-list-length";
        enum "igp-metric";
        enum "peer-type";
        enum "origin";
        enum "weight-or-preferred-value";
        enum "local-preference";
        enum "route-type";
        enum "as-path-length";
        enum "med";
        enum "flap-dampened route";
        enum "not-this-path-prefix-uses-alt-best-path";
        enum "overlapping-route-marked-to-remove";
    }
    config false;
}
}

}

grouping bgp-peer-common {

    leaf bgp-peer-name {
        type string;
    }

    leaf bgp-peer-type {
        description
            "the bgp-peer-type provides a list of bgp peer type 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).";
        type enumeration {
            enum "asbr";
            enum "ibgp";
```



```
    enum "rr";
    enum "rr-client";
    enum "pe";
    enum "ce";
    enum "bgp-vendor-types";
    enum "bgp-vendor-type";
  }
  config false;
}

leaf bgp-peer-create {
  description
    "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).";
  type enumeration {
    enum "not-i2rs-created-peer";
    enum "i2rsclient-bgp-peer-create-request";
    enum "i2rsagent-rejects-bgp-peer-create";
    enum "i2rsagent-attempts-bgp-instance-create";
    enum "i2rsagent-fails-bgp-instance-create";
    enum "i2rsagent-created-bgp-peer";
  }
  config false;
}
container bgp-policy-in {
}
container bgp-policy-out {
}
container peer-policy-in-pset {
  description "this is the variable the i2rs client reads to receive the
full policy-
  set used for this bgp peers inbound policy. the i2rs agent must
  to keep this policy variable in-sync with the i2rs peer-policy-in.";
  config false;
}
container peer-policy-out-pset {
  description "this is the variable the i2rs client reads to receive the
full policy-
  set used for this bgp peers inbound policy. the i2rs agent must
  to keep this policy variable in-sync with the i2rs peer- policy-out.";
  config false;
}
container peer-state-info {
  description "the current state of the bgp peer in the bgp state machi
ne.";
  leaf peer-current-state {
```



```
    type peer-state;
    config false;
  }
  leaf peer-last-state {
    description "the last state of the bgp peer according to the bgp state machine.";
    type peer-state;
    config false;
  }

  container peer-down-reason {
    description "the error code and sub-error code of the last peer down.";
    leaf error-code {
      type enumeration {
        enum message-header-error {
          value "1";
        }
        enum open-message-error {
          value "2";
        }
        enum update-message-error {
          value "3";
        }
        enum hold-timer-expired {
          value "4";
        }
        enum finite-state-machine-error {
          value "5";
        }
        enum cease {
          value "6";
        }
        enum route-refresh-error {
          value "7";
        }
      }
    }
    container sub-error-code {
      choice sub-error-code-type {
        case head-error-sub-code {
          leaf head-error-sub-value {
            type enumeration {
              enum connection-not-synchronized {
                value "1";
              }
              enum bad-message-length {
                value "2";
              }
              enum bad-message-type {
```



```
        value "3";
    }
}
}
}
case open-error-sub-code{
  leaf open-error-sub-value {
    type enumeration {
      enum unsupported-version-number {
        value "1";
      }
      enum bad-peer-as {
        value "2";
      }
      enum bad-bgp-identifier {
        value "3";
      }
      enum unsupported-optional-parameter {
        value "4";
      }
      enum deprecated-see-appendix-a {
        value "5";
      }
      enum unacceptable-hold-time {
        value "6";
      }
    }
  }
}
case update-error-sub-code{
  leaf update-error-sub-value {
    type enumeration {
      enum malformed-attribute-list {
        value "1";
      }
      enum unrecognized-well-known-attribute {
        value "2";
      }
      enum missing-well-known-attribute {
        value "3";
      }
      enum attribute-flags-error {
        value "4";
      }
      enum attribute-length-error {
        value "5";
      }
      enum invalid-origin-attribute {
```



```
        "contains current total number of unique prefix routes received fr
om peer.";
        type uint64;
        config false;
    }
    leaf peer-send-route-cnt {
        description
            "contains current total number prefix routes sent to peer.";
        type uint64;
        config false;
    }

    leaf max-prefix-rcv-limit {
        description
            "maximum unique prefix routes accepted from peer.";
        type uint64;
    }
    leaf max-prefix-xmt-limit {
        description
            "maximum unique prefix routes transmit to peer.";
        type uint64;
    }

    leaf peer-prefix-high {
        description
            "contains high water mark count of total unique routes by prefix r
eceived from peer.";
        type uint64;
        config false;
    }
    leaf peer-prefix-low {
        description
            "contains the low water mark count of total unique routes by prefi
x received from peer.";
        type uint64;
        config false;
    }
    leaf peer-perfix-ave {
        description
            "contains the average number of prefix routes from peer (running).
";
        type uint64;
        config false;
    }
    leaf peer-prefix-time {
        type uint64;
        config false;
    }
    leaf peer-prefix-max {
        type uint64;
        config false;
    }
}
```



```
    leaf publish-version {
      type uint64;
      config false;
    }
  }
} //end of "container bgp-peer-list"

grouping bgp-mvpn-rib {
  uses bgp-route-common;

  choice bgp-mvpn-route-type {
    case INTRA_AS_I_PMSI_AD {
      list intra-as-i-pmsi-ad-route {
        key "route-type route-distinguisher origin-router-ip-addr";

        leaf route-type {
          type mvpn-route-type;
        }
        leaf route-distinguisher {
          type route-distinguisher-def;
        }
        leaf origin-router-ip-addr {
          type inet:ip-prefix;
        }
      }
    }
    case INTER_AS_I_PMSI_AD {
      list inter_as_i_pmsi_as_route {
        key "route-type route-distinguisher source-as";

        leaf route-type {
          type mvpn-route-type;
        }
        leaf route-distinguisher {
          type route-distinguisher-def;
        }
        leaf source-as {
          type inet:as-number;
        }
      }
    }
    case S_PMSI_AD {
      list s-pmsi-ad-route {
        key "route-type route-distinguisher multicast-source
          multicast-group origin-router-ip-addr";

        leaf route-type {
```

```
        type mvpn-route-type;
    }
    leaf route-distinguisher{
        type route-distinguisher-def;
    }
    leaf multicast-source{
        type inet:ip-prefix;
    }
    leaf multicast-group{
        type inet:ip-prefix;
    }
    leaf origin-router-ip-addr{
        type inet:ip-prefix;
    }
}
}
case LEAF_AD{
    list leaf-ad-route {
        key "route-type route-key origin-router-ip-addr";

        leaf route-type{
            type mvpn-route-type;
        }
        leaf route-key{
            type binary;
        }
        leaf origin-router-ip-addr{
            type inet:ip-prefix;
        }
    }
}
case SOURCE_ACTIVE_AD {
    list source-active-ad-route {
        key "route-type route-distinguisher
            multicast-source multicast-group";

        leaf route-type{
            type mvpn-route-type;
        }
        leaf route-distinguisher{
            type route-distinguisher-def;
        }
        leaf multicast-source{
            type inet:ip-prefix;
        }
        leaf multicast-group{
            type inet:ip-prefix;
        }
    }
}
```

```
    }
  }
  case SHARED_TREE_JOIN {
    list shared-tree-join-route {
      key "route-type route-distinguisher source-as
          multicast-source multicast-group";

      leaf route-type{
        type mvpn-route-type;
      }
      leaf route-distinguisher{
        type route-distinguisher-def;
      }
      leaf source-as{
        type inet:as-number;
      }
      leaf multicast-source{
        type inet:ip-prefix;
      }
      leaf multicast-group{
        type inet:ip-prefix;
      }
    }
  }
  case SOURCE_TREE_JOIN {
    list source-tree-join-route {
      key "route-type route-distinguisher source-as
          multicast-source multicast-group";

      leaf route-type{
        type mvpn-route-type;
      }
      leaf route-distinguisher{
        type route-distinguisher-def;
      }
      leaf source-as{
        type inet:as-number;
      }
      leaf multicast-source{
        type inet:ip-prefix;
      }
      leaf multicast-group{
        type inet:ip-prefix;
      }
    }
  }
}
```

```
}

grouping bgp-mcast-vpls-rib {
  uses bgp-route-common;

  choice bgp-mcast-vpls-route-type {
    case SELECTIVE_TREE_AD_ROUTE {
      list selective-tree-ad-route{
        key "route-type route-distinguisher multicast-source
            multicast-group origin-router-ip-addr";

        leaf route-type{
          type mcast-vpls-route-type;
        }
        leaf route-distinguisher{
          type route-distinguisher-def;
        }
        leaf multicast-source{
          type inet:ip-prefix;
        }
        leaf multicast-group{
          type inet:ip-prefix;
        }
        leaf origin-router-ip-addr{
          type inet:ip-prefix;
        }
      }
    }
    case LEAF_AD {
      list leaf-ad-route {
        key "route-type route-key origin-router-ip-addr";

        leaf route-type{
          type mcast-vpls-route-type;
        }
        leaf route-key{
          type binary;
        }
        leaf origin-router-ip-addr{
          type inet:ip-prefix;
        }
      }
    }
  }
}

grouping bgp-evpn-rib {
```

```
uses bgp-route-common;

choice bgp-evpn-route-type {
  case EVPN_AD_ROUTE {
    list evpn-ad-route {
      key "route-type route-distinguisher esi eth-tag-id";

      leaf route-type {
        type evpn-route-type;
      }
      leaf route-distinguisher {
        type route-distinguisher-def;
      }
      leaf esi {
        type string {
          length "24";
          pattern "(^00([0-9a-fA-F]){2}\.(([0-9a-fA-F]){4}\.){3}
            (([0-9a-fA-F]){4}))$)";
        }
      }
      leaf eth-tag-id {
        type uint32 {
          range "1..4294967295";
        }
      }
    }
  }
  case EVPN_MAC_ROUTE {
    list evpn-mac-route {
      key "route-type route-distinguisher esi eth-tag-id
        mac-length mac-address ip-address-length ip-address";

      leaf route-type {
        type evpn-route-type;
      }
      leaf route-distinguisher {
        type route-distinguisher-def;
      }
      leaf esi {
        type string {
          length "24";
          pattern "(^00([0-9a-fA-F]){2}\.(([0-9a-fA-F]){4}\.){3}
            (([0-9a-fA-F]){4}))$)";
        }
      }
      leaf eth-tag-id {
        type uint32 {
          range "1..4294967295";
        }
      }
    }
  }
}
```

```
    }
  }
  leaf mac-length {
    type uint8 {
      range "48";
    }
  }
  leaf mac-address {
    type yang:mac-address;
  }
  leaf ip-address-length {
    type uint8 {
      range "0..32";
    }
  }
  leaf ip-address {
    type inet:ip-address;
  }
  leaf label1{
    type uint32 {
      range "16..1048574";
    }
  }
  leaf label2{
    type uint32 {
      range "16..1048574";
    }
  }
}
}
case EVPN_INC_MCAST_TREE {
  list evpn-inc-mcast-tree-route {
    key "route-type route-distinguisher eth-tag-id
        ip-address-length origin-router-ip-addr";

    leaf route-type{
      type evpn-route-type;
    }
    leaf route-distinguisher{
      type route-distinguisher-def;
    }
    leaf eth-tag-id {
      type uint32 {
        range "1..4294967295";
      }
    }
    leaf ip-address-length {
      type uint8; //4 or 16 octets
    }
  }
}
```

```

    }
    leaf origin-router-ip-addr{
      type inet:ip-prefix;
    }
  }
}
case EVPN_ETH_SEGMENT_ROUTE{
  list evpn-eth-segment-route {
    key "route-type route-distinguisher esi
        ip-address-length origin-router-ip-addr";

    leaf route-type{
      type evpn-route-type;
    }
    leaf route-distinguisher{
      type route-distinguisher-def;
    }
    leaf esi{
      type string{
        length "24";
        pattern "(^00([0-9a-fA-F]){2}\.(([0-9a-fA-F]){4}\.){3}
            (([0-9a-fA-F]){4})$)";
      }
    }
    leaf ip-address-length {
      type uint8; //4 or 16 octets
    }
    leaf origin-router-ip-addr{
      type inet:ip-prefix;
    }
  }
}
}
}

container bgp-protocol {
  leaf router-id {
    type inet:ip-address;
  }
  leaf as-number {
    type uint32;
  }

  leaf protocol-status {
    description
      "administrative status of bgp protocol.";
    type enumeration {
      enum "unknown";
    }
  }
}

```

```
        enum "up";
        enum "down";
    }
    config false;
}

leaf shutdown-protocol {
    type boolean;
}

leaf bgp-role {
    type enumeration {
        enum "asbr";
        enum "pe";
        enum "ibgp";
        enum "rr";
    }
    config false;
}

container bgp-ipv4-uni-instance {
    uses bgp-instance-common;
    container bgp-local-rib{
        list bgp-route-list{
            key "ipv4-route ipv4-prefix-length";
            leaf ipv4-route{
                type inet:ipv4-prefix;
            }
            leaf ipv4-prefix-length{
                type uint8;
            }
            uses bgp-route-common;
        }
    }
    list bgp-peer-list{
        key "bgp-peer-name";
        container peer-session-address{
            leaf local-ipv4-address{
                type inet:ipv4-prefix;
            }
            leaf remote-ipv4-address{
                type inet:ipv4-prefix;
            }
        }
        uses bgp-peer-common;
        container bgp-rib-in{
            list bgp-rib-in-list{
                key "ipv4-route ipv4-prefix-length";
```



```
        leaf ipv4-route{
            type inet:ipv4-prefix;
        }
        leaf ipv4-prefix-length{
            type uint8;
        }
        uses bgp-route-common;
    }
}
container bgp-rib-out{
    list bgp-rib-out-list{
        key "ipv4-route ipv4-prefix-length";
        leaf ipv4-route{
            type inet:ipv4-prefix;
        }
        leaf ipv4-prefix-length{
            type uint8;
        }
        uses bgp-route-common;
    }
}
}
}
container bgp-labeled-ipv4-instance {
    uses bgp-instance-common;
    container bgp-local-rib{
        list bgp-route-list{
            key "ipv4-route ipv4-prefix-length mpls-label";
            leaf ipv4-route{
                type inet:ipv4-prefix;
            }
            leaf ipv4-prefix-length{
                type uint8;
            }
            leaf mpls-label{
                type mpls-label-def;
            }
            uses bgp-route-common;
        }
    }
}
list bgp-peer-list{
    key "bgp-peer-name";
    container peer-session-address{
        leaf local-ipv4-address{
            type inet:ipv4-prefix;
        }
        leaf remote-ipv4-address{
            type inet:ipv4-prefix;
        }
    }
}
```

```

    }
  }
  uses bgp-peer-common;
  container bgp-rib-in{
    list bgp-rib-in-list{
      key "ipv4-route ipv4-prefix-length mpls-label";
      leaf ipv4-route{
        type inet:ipv4-prefix;
      }
      leaf ipv4-prefix-length{
        type uint8;
      }
      leaf mpls-label{
        type mpls-label-def;
      }
      uses bgp-route-common;
    }
  }
  container bgp-rib-out{
    list bgp-rib-out-list{
      key "ipv4-route ipv4-prefix-length mpls-label";
      leaf ipv4-route{
        type inet:ipv4-prefix;
      }
      leaf ipv4-prefix-length{
        type uint8;
      }
      leaf mpls-label{
        type mpls-label-def;
      }
      uses bgp-route-common;
    }
  }
}

```

```

container bgp-ipv4-multi-instance {
  uses bgp-instance-common;
  container bgp-local-rib{
    list bgp-route-list{
      key "ipv4-route ipv4-prefix-length";
      leaf ipv4-route{
        type inet:ipv4-prefix;
      }
      leaf ipv4-prefix-length{
        type uint8;
      }
    }
  }
}

```

```
        uses bgp-route-common;
    }
}
list bgp-peer-list{
    key "bgp-peer-name";
    container peer-session-address{
        leaf local-ipv4-address{
            type inet:ipv4-prefix;
        }
        leaf remote-ipv4-address{
            type inet:ipv4-prefix;
        }
    }
}
uses bgp-peer-common;
container bgp-rib-in{
    list bgp-rib-in-list{
        key "ipv4-route ipv4-prefix-length";
        leaf ipv4-route{
            type inet:ipv4-prefix;
        }
        leaf ipv4-prefix-length{
            type uint8;
        }
    }
    uses bgp-route-common;
}
}
container bgp-rib-out{
    list bgp-rib-out-list{
        key "ipv4-route ipv4-prefix-length";
        leaf ipv4-route{
            type inet:ipv4-prefix;
        }
        leaf ipv4-prefix-length{
            type uint8;
        }
    }
    uses bgp-route-common;
}
}
}
}

container bgp-vpnv4-instance {
    uses bgp-instance-common;
    container bgp-local-rib{
        list bgp-route-list{
            key "ipv4-route ipv4-prefix-length route-distinguisher";
            leaf ipv4-route{
                type inet:ipv4-prefix;
            }
        }
    }
}
```

```
    }
    leaf ipv4-prefix-length{
      type uint8;
    }
    leaf mpls-label{
      type mpls-label-def;
    }
    leaf route-distinguisher{
      type route-distinguisher-def;
    }
    uses bgp-route-common;
  }
}
list bgp-peer-list{
  key "bgp-peer-name";
  container peer-session-address{
    leaf local-ipv4-address{
      type inet:ipv4-prefix;
    }
    leaf remote-ipv4-address{
      type inet:ipv4-prefix;
    }
  }
}
uses bgp-peer-common;
container bgp-rib-in{
  list bgp-rib-in-list{
    key "ipv4-route ipv4-prefix-length route-distinguisher";
    leaf ipv4-route{
      type inet:ipv4-prefix;
    }
    leaf ipv4-prefix-length{
      type uint8;
    }
    leaf mpls-label{
      type mpls-label-def;
    }
    leaf route-distinguisher{
      type route-distinguisher-def;
    }
    uses bgp-route-common;
  }
}
container bgp-rib-out{
  list bgp-rib-out-list{
    key "ipv4-route ipv4-prefix-length route-distinguisher";
    leaf ipv4-route{
      type inet:ipv4-prefix;
    }
  }
}
```

```

        leaf ipv4-prefix-length{
            type uint8;
        }
        leaf mpls-label{
            type mpls-label-def;
        }
        leaf route-distinguisher{
            type route-distinguisher-def;
        }
        uses bgp-route-common;
    }
}
}
}

```

```

list bgp-ipv4-l3vpn-instance-list {
    key "bgp-l3vpn-instance-name";
    leaf bgp-l3vpn-instance-name {
        type string;
    }
    uses bgp-instance-common;
    container bgp-local-rib{
        list bgp-route-list{
            key "ipv4-route ipv4-prefix-length";
            leaf ipv4-route{
                type inet:ipv4-prefix;
            }
            leaf ipv4-prefix-length{
                type uint8;
            }
            uses bgp-route-common;
        }
    }
}
list bgp-peer-list{
    key "bgp-peer-name";
    container peer-session-address{
        leaf local-ipv4-address{
            type inet:ipv4-prefix;
        }
        leaf remote-ipv4-address{
            type inet:ipv4-prefix;
        }
    }
    uses bgp-peer-common;
    container bgp-rib-in{

```

```
list bgp-rib-in-list{
  key "ipv4-route ipv4-prefix-length";
  leaf ipv4-route{
    type inet:ipv4-prefix;
  }
  leaf ipv4-prefix-length{
    type uint8;
  }
  uses bgp-route-common;
}
}
container bgp-rib-out{
  list bgp-rib-out-list{
    key "ipv4-route ipv4-prefix-length";
    leaf ipv4-route{
      type inet:ipv4-prefix;
    }
    leaf ipv4-prefix-length{
      type uint8;
    }
    uses bgp-route-common;
  }
}
}
}

/*ipv6*/
container bgp-ipv6-uni-instance {
  uses bgp-instance-common;
  container bgp-local-rib{
    list bgp-route-list{
      key "ipv6-route ipv6-prefix-length";
      leaf ipv6-route{
        type inet:ipv6-prefix;
      }
      leaf ipv6-prefix-length{
        type uint8;
      }
      uses bgp-route-common;
    }
  }
}
list bgp-peer-list{
  key "bgp-peer-name";
  container peer-session-address{
    leaf local-ipv6-address{
      type inet:ipv6-prefix;
    }
    leaf remote-ipv6-address{
```

```
        type inet:ipv6-prefix;
    }
}
uses bgp-peer-common;
container bgp-rib-in{
    list bgp-rib-in-list{
        key "ipv6-route ipv6-prefix-length";
        leaf ipv6-route{
            type inet:ipv6-prefix;
        }
        leaf ipv6-prefix-length{
            type uint8;
        }
        uses bgp-route-common;
    }
}
container bgp-rib-out{
    list bgp-rib-out-list{
        key "ipv6-route ipv6-prefix-length";
        leaf ipv6-route{
            type inet:ipv6-prefix;
        }
        leaf ipv6-prefix-length{
            type uint8;
        }
        uses bgp-route-common;
    }
}
}
}
}
container bgp-labeled-ipv6-instance {
    uses bgp-instance-common;
    container bgp-local-rib{
        list bgp-route-list{
            key "ipv6-route ipv6-prefix-length mpls-label";
            leaf ipv6-route{
                type inet:ipv6-prefix;
            }
            leaf ipv6-prefix-length{
                type uint8;
            }
            leaf mpls-label{
                type mpls-label-def;
            }
            uses bgp-route-common;
        }
    }
}
list bgp-peer-list{
```

```

key "bgp-peer-name";
container peer-session-address{
  leaf local-ipv6-address{
    type inet:ipv6-prefix;
  }
  leaf remote-ipv6-address{
    type inet:ipv6-prefix;
  }
}
uses bgp-peer-common;
container bgp-rib-in{
  list bgp-rib-in-list{
    key "ipv6-route ipv6-prefix-length mpls-label";
    leaf ipv6-route{
      type inet:ipv6-prefix;
    }
    leaf ipv6-prefix-length{
      type uint8;
    }
    leaf mpls-label{
      type mpls-label-def;
    }
    uses bgp-route-common;
  }
}
container bgp-rib-out{
  list bgp-rib-out-list{
    key "ipv6-route ipv6-prefix-length mpls-label";
    leaf ipv6-route{
      type inet:ipv6-prefix;
    }
    leaf ipv6-prefix-length{
      type uint8;
    }
    leaf mpls-label{
      type mpls-label-def;
    }
    uses bgp-route-common;
  }
}
}
}
}

```

```

container bgp-ipv6-multi-instance {
  uses bgp-instance-common;
  container bgp-local-rib{
    list bgp-route-list{

```



```
    key "ipv6-route ipv6-prefix-length";
    leaf ipv6-route{
      type inet:ipv6-prefix;
    }
    leaf ipv6-prefix-length{
      type uint8;
    }
    uses bgp-route-common;
  }
}
list bgp-peer-list{
  key "bgp-peer-name";
  container peer-session-address{
    leaf local-ipv6-address{
      type inet:ipv6-prefix;
    }
    leaf remote-ipv6-address{
      type inet:ipv6-prefix;
    }
  }
}
uses bgp-peer-common;
container bgp-rib-in{
  list bgp-rib-in-list{
    key "ipv6-route ipv6-prefix-length";
    leaf ipv6-route{
      type inet:ipv6-prefix;
    }
    leaf ipv6-prefix-length{
      type uint8;
    }
    uses bgp-route-common;
  }
}
container bgp-rib-out{
  list bgp-rib-out-list{
    key "ipv6-route ipv6-prefix-length";
    leaf ipv6-route{
      type inet:ipv6-prefix;
    }
    leaf ipv6-prefix-length{
      type uint8;
    }
    uses bgp-route-common;
  }
}
}
```

```
container bgp-vpn6-instance {
  uses bgp-instance-common;
  container bgp-local-rib{
    list bgp-route-list{
      key "ipv6-route ipv6-prefix-length route-distinguisher";
      leaf ipv6-route{
        type inet:ipv6-prefix;
      }
      leaf ipv6-prefix-length{
        type uint8;
      }
      leaf mpls-label{
        type mpls-label-def;
      }
      leaf route-distinguisher{
        type route-distinguisher-def;
      }
      uses bgp-route-common;
    }
  }
}
list bgp-peer-list{
  key "bgp-peer-name";
  container peer-session-address{
    leaf local-ipv6-address{
      type inet:ipv6-prefix;
    }
    leaf remote-ipv6-address{
      type inet:ipv6-prefix;
    }
  }
}
uses bgp-peer-common;
container bgp-rib-in{
  list bgp-rib-in-list{
    key "ipv6-route ipv6-prefix-length route-distinguisher";
    leaf ipv6-route{
      type inet:ipv6-prefix;
    }
    leaf ipv6-prefix-length{
      type uint8;
    }
    leaf mpls-label{
      type mpls-label-def;
    }
    leaf route-distinguisher{
      type route-distinguisher-def;
    }
    uses bgp-route-common;
  }
}
```

```

    }
    container bgp-rib-out{
      list bgp-rib-out-list{
        key "ipv6-route ipv6-prefix-length route-distinguisher";
        leaf ipv6-route{
          type inet:ipv6-prefix;
        }
        leaf ipv6-prefix-length{
          type uint8;
        }
        leaf mpls-label{
          type mpls-label-def;
        }
        leaf route-distinguisher{
          type route-distinguisher-def;
        }
        uses bgp-route-common;
      }
    }
  }
}

```

```

list bgp-ipv6-l3vpn-instance-list {
  key "bgp-l3vpn-instance-name";
  leaf bgp-l3vpn-instance-name {
    type string;
  }
  uses bgp-instance-common;
  container bgp-local-rib{
    list bgp-route-list{
      key "ipv6-route ipv6-prefix-length";
      leaf ipv6-route{
        type inet:ipv6-prefix;
      }
      leaf ipv6-prefix-length{
        type uint8;
      }
      uses bgp-route-common;
    }
  }
  list bgp-peer-list{
    key "bgp-peer-name";
    container peer-session-address{
      leaf local-ipv6-address{
        type inet:ipv6-prefix;
      }
    }
  }
}

```

```
        leaf remote-ipv6-address{
            type inet:ipv6-prefix;
        }
    }
    uses bgp-peer-common;
    container bgp-rib-in{
        list bgp-rib-in-list{
            key "ipv6-route ipv6-prefix-length";
            leaf ipv6-route{
                type inet:ipv6-prefix;
            }
            leaf ipv6-prefix-length{
                type uint8;
            }
            uses bgp-route-common;
        }
    }
    container bgp-rib-out{
        list bgp-rib-out-list{
            key "ipv6-route ipv6-prefix-length";
            leaf ipv6-route{
                type inet:ipv6-prefix;
            }
            leaf ipv6-prefix-length{
                type uint8;
            }
            uses bgp-route-common;
        }
    }
}

container bgp-ipv4-mvpn-instance {
    uses bgp-instance-common;

    container bgp-local-rib{
        uses bgp-mvpn-rib;
    }

    list bgp-peer-list{
        key "bgp-peer-name";
        container peer-session-address{
            leaf local-ipv4-address{
                type inet:ipv4-prefix;
            }
            leaf remote-ipv4-address{
                type inet:ipv4-prefix;
            }
        }
    }
}
```

```
    }
    uses bgp-peer-common;

    container bgp-rib-in{
        uses bgp-mvpn-rib;
    }
    container bgp-rib-out{
        uses bgp-mvpn-rib;
    }
}

container bgp-ipv6-mvpn-instance {
    uses bgp-instance-commom;

    container bgp-local-rib{
        uses bgp-mvpn-rib;
    }

    list bgp-peer-list{
        key "bgp-peer-name";
        container peer-session-address{
            leaf local-ipv6-address{
                type inet:ipv6-prefix;
            }
            leaf remote-ipv6-address{
                type inet:ipv6-prefix;
            }
        }
        uses bgp-peer-common;

        container bgp-rib-in{
            uses bgp-mvpn-rib;
        }
        container bgp-rib-out{
            uses bgp-mvpn-rib;
        }
    }
}

container bgp-mcast-vpls-instance {
    uses bgp-instance-commom;

    container bgp-local-rib{
        uses bgp-mcast-vpls-rib;
    }

    list bgp-peer-list{
```

```
    key "bgp-peer-name";
    container peer-session-address{
      leaf local-ipv4-address{
        type inet:ipv4-prefix;
      }
      leaf remote-ipv4-address{
        type inet:ipv4-prefix;
      }
    }
  }
  uses bgp-peer-common;

  container bgp-rib-in{
    uses bgp-mcast-vpls-rib;
  }
  container bgp-rib-out{
    uses bgp-mcast-vpls-rib;
  }
}

container bgp-evpn-instance {
  uses bgp-instance-common;

  container bgp-local-rib{
    uses bgp-evpn-rib;
  }

  list bgp-peer-list{
    key "bgp-peer-name";
    container peer-session-address{
      leaf local-ipv4-address{
        type inet:ipv4-prefix;
      }
      leaf remote-ipv4-address{
        type inet:ipv4-prefix;
      }
    }
    uses bgp-peer-common;

    container bgp-rib-in{
      uses bgp-evpn-rib;
    }
    container bgp-rib-out{
      uses bgp-evpn-rib;
    }
  }
}
```

```
}//end of "container bgp-protocol"  
}  
//<code ends>
```

5. IANA Considerations

This draft includes no request to IANA.

6. Security Considerations

TBD.

7. Informative References

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