

EVPN multicast Yang Model

draft-zhao-pim-evpn-multicast-yang-00

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Status

- version 00
 - First version for presentation
 - Effort from multicast yang design team
 - Ericsson/Cisco/IBM/China Mobile/ Juniper □

Introduction

- The draft-ietf-bess-evpn-yang defines ietf-evpn yang data model for Ethernet VPN services. It covers the following BGP EVPN Route Types defined in RFC7432 and RFC9136.

Type 1 - Ethernet Auto-Discovery (A-D) route

Type 2 - MAC/IP Advertisement route

Type 3 - Inclusive Multicast Ethernet Tag route

Type 4 - Ethernet Segment route

Type 5 - IP Prefix route

- RFC9251 (IGMP and MLD Proxy for EVPN) defines three new BGP EVPN routes to carry IGMP Membership Reports. These types of routes haven't been covered in any yang data model.

Type 6 - Selective Multicast Ethernet Tag Route

Type 7 - Multicast Membership Report Synch Route

Type 8 - Multicast Leave Synch Route

- So we defined ietf-evpn-multicast yang data model. It extends ietf-evpn data model to configure and show EVPN multicast service.

Structure

- Attributes to control the three new BGP EVPN routes to carry IGMP Membership Reports.

```
module: ietf-evpn-multicast
  augment /evpn:evpn/evpn:evpn-instances/evpn:evpn-instance:
    +--rw sel-mcast-advertisement?    boolean
    +--rw evpn-igmp-proxy?            boolean
    +--rw evpn-mld-proxy?             boolean
```

- If sel-mcast-advertisement is enabled, BGP could publish Selective Multicast Ethernet Tag Route.
- If evpn-igmp-proxy is enabled, Trigger an IMET route update with Multicast Flags Extended Community and IGMP proxy bit is set.
- If evpn-mld-proxy is enabled, Trigger an IMET route update with Multicast Flags Extended Community and MLD proxy bit is set.

Structure

- Details of the three new BGP EVPN routes.

```
augment /evpn:evpn/evpn:evpn-instances/evpn:evpn-instance/evpn:routes:
  +--ro selective-multicast-ethernet-tag-route* []
  | +--ro rd-rt* [route-distinguisher]
  | | +--ro route-distinguisher rt-types:route-distinguisher
  | | +--ro vpn-target* [route-target]
  | |   +--ro route-target rt-types:route-target
  | +--ro ethernet-tag? uint32
  | +--ro multicast-source-address? inet:ipv4-address
  | +--ro multicast-group-address? rt-types:ipv4-multicast-group-address
  | +--ro originator-ip-prefix? inet:ip-prefix
+--ro multicast-membership-report-synch-route* []
  | +--ro rd-rt* [route-distinguisher]
  | | +--ro route-distinguisher rt-types:route-distinguisher
  | | +--ro vpn-target* [route-target]
  | |   +--ro route-target rt-types:route-target
  | +--ro ethernet-segment-identifier? es:ethernet-segment-identifier-type
  | +--ro ethernet-tag? uint32
  | +--ro multicast-source-address? inet:ipv4-address
  | +--ro multicast-group-address? rt-types:ipv4-multicast-group-address
  | +--ro originator-ip-prefix? inet:ip-prefix
+--ro multicast-leave-synch-route* []
  +--ro rd-rt* [route-distinguisher]
  | +--ro route-distinguisher rt-types:route-distinguisher
  | +--ro vpn-target* [route-target]
  |   +--ro route-target rt-types:route-target
  +--ro ethernet-segment-identifier? es:ethernet-segment-identifier-type
  +--ro ethernet-tag? uint32
  +--ro multicast-source-address? inet:ipv4-address
  +--ro multicast-group-address? rt-types:ipv4-multicast-group-address
  +--ro originator-ip-prefix? inet:ip-prefix
  +--ro maximum-response-time? uint32
```

Next Step

- Welcome more comments