IGMP & MLD Snooping
YANG Model extension for L2VPN

draft-zhao-pim-igmp-mld-snooping-yang-l2vpn-ext-00

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Status

- version 00
  - First version for presentation.
  - Effort from multicast yang design team

    〔Ericsson/IBM/Juniper/China Mobile〕

Relationship with RFC 9166

- RFC 9166 defines a yang data model for configuring IGMP & MLD Snooping.

- It only covers IGMP & MLD Snooping in bridge service.

- RFC9166 was draft-ietf-pim-igmp-mld-snooping-yang, and once included l2vpn part for igmp snooping. It entered into RFC Ed queue in August, 2020.
- But it was blocked in MISSREF state more than a year because of normative reference to draft-ietf-bess-l2vpn-yang.
- So a WGLC in PIM WG for removing l2vpn part was held in September, 2021 and passed.
- Not long afterward draft-ietf-pim-igmp-mld-snooping-yang was published as RFC9166.

- IGMP & MLD Snooping could be used in L2VPN service, so it is still needed to be covered in yang data model.

Mrouter interface for L2VPN

- There are 2 types of mrouter interfaces in L2VPN. They could be called AC mrouter interface and PW mrouter interface.

```
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-protocol/ims:igmp-snooping-i
   +--rw static-l2vpn-mrouter-interface-ac*    if:interface-ref
   +--rw static-l2vpn-mrouter-interface-pw*    pw:pseudowire-ref
   +--ro l2vpn-mrouter-interface-ac*           if:interface-ref
   +--ro l2vpn-mrouter-interface-pw*           pw:pseudowire-ref
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-protocol/ims:mld-snooping-in
   +--rw static-l2vpn-mrouter-interface-ac*    if:interface-ref
   +--rw static-l2vpn-mrouter-interface-pw*    pw:pseudowire-ref
   +--ro l2vpn-mrouter-interface-ac*           if:interface-ref
   +--ro l2vpn-mrouter-interface-pw*           pw:pseudowire-ref
```

Outgoing interface for L2VPN

- Manually configured outgoing interface

```
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-protocol/ims:igmp-snooping-instance/ims:static-l2
   +--rw l2vpn-outgoing-ac*    if:interface-ref
   +--rw l2vpn-outgoing-pw*    pw:pseudowire-ref
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-protocol/ims:mld-snooping-instance/ims:static-l2
   +--rw l2vpn-outgoing-ac*    if:interface-ref
   +--rw l2vpn-outgoing-pw*    pw:pseudowire-ref
```

Outgoing interface for L2VPN

- Dynamically learned outgoing interface

```
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-protocol/ims:igmp-snooping-instance/ims:group/ims:sour
   +--ro l2vpn-outgoing-ac*    if:interface-ref
   +--ro l2vpn-outgoing-pw*    pw:pseudowire-ref
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-protocol/ims:mld-snooping-instance/ims:group/ims:sourc
   +--ro l2vpn-outgoing-ac*    if:interface-ref
   +--ro l2vpn-outgoing-pw*    pw:pseudowire-ref
```

Using snooping instance in L2VPN

- The igmp-snooping-instance and mld-snooping-instance could be referenced in L2VPN service.

```
augment /ni:network-instances/ni:network-instance/ni:ni-type/l2vpn:l2vpn:
  +--rw igmp-snooping-instance?    ims:igmp-mld-snooping-instance-ref
  +--rw mld-snooping-instance?     ims:igmp-mld-snooping-instance-ref
```

Next Step

- Apply for WG adoption

- Need more comments