IGMP/MLD Proxy YANG Model

draft-zhao-pim-igmp-mld-proxy-yang-03

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IETF105

Status

- version 03

- Third version for presentation

- Involved 2 more coauthors

o *Mani Panchanathan from Cisco*

o *Mahesh Sivakumar from Juniper*

Draft Update 1

- Update constraint to make sure the upstream interface for IGMP/MLD proxy should not be configured PIM.

```
augment "/rt:routing/rt:control-plane-protocols"+
        "/rt:control-plane-protocol" {

    container igmp-proxy {
       container interfaces {
        list interface {
          key "interface-name";
          description
            "List of upstream interfaces.";

          leaf interface-name {
            type if:interface-ref;
            must "not(current() = /rt:routing/rt:control-plane-protocols/pim-base:pim/pim-
base:interfaces/pim-base:interface/pim-base:name)" {
                description
                  "The upstream interface for IGMP/MLD proxy
                   should not be configured PIM.";
            }
          }
```

Draft Update 2

- Add if-feature feature-igmp-proxy to make implementation more flexible.

IGMP Proxy

```
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-protocol:
  +--rw igmp-proxy {feature-igmp-proxy}?
    +--rw interfaces
      +--rw interface* [interface-name]
        +--rw interface-name    if:interface-ref
        +--rw version?          uint8
        +--rw enable?           boolean
        +--ro group* [group-address]
          +--ro group-address    inet:ipv4-address
          +--ro up-time?         uint32
          +--ro filter-mode?     enumeration
          +--ro source* [source-address]
            +--ro source-address           inet:ipv4-address
            +--ro up-time?                 uint32
            +--ro filter-mode?             enumeration
            +--ro downstream-interface* [interface-name]
              +--ro interface-name    if:interface-ref
              +--ro filter-mode?      enumeration
```
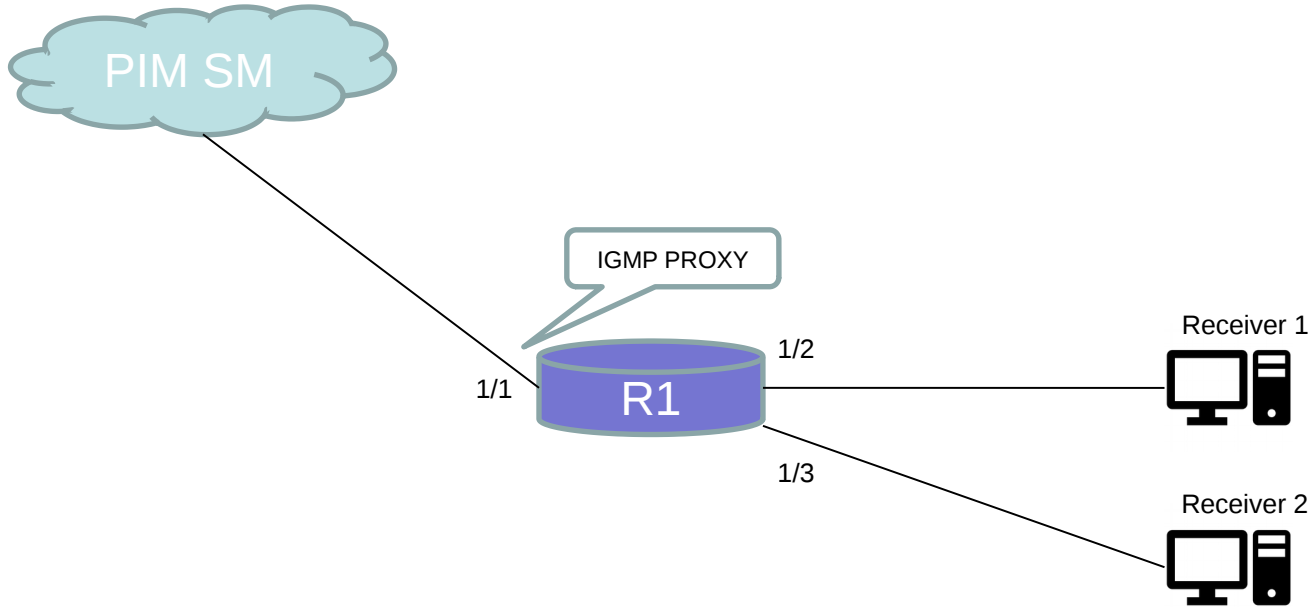
Draft Update 3

- Add if-feature feature-mld-proxy to make implementation more flexible.

MLD Proxy

```
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-protocol:
  +--rw mld-proxy {feature-mld-proxy}?
     +--rw interfaces
        +--rw interface* [interface-name]
           +--rw interface-name    if:interface-ref
           +--rw version?          uint8
           +--rw enable?           boolean
           +--ro group* [group-address]
              +--ro group-address    inet:ipv6-address
              +--ro up-time?         uint32
              +--ro filter-mode?     enumeration
              +--ro source* [source-address]
                 +--ro source-address          inet:ipv6-address
                 +--ro up-time?                uint32
                 +--ro filter-mode?            enumeration
                 +--ro downstream-interface* [interface-name]
                    +--ro interface-name    if:interface-ref
                    +--ro filter-mode?      enumeration
```
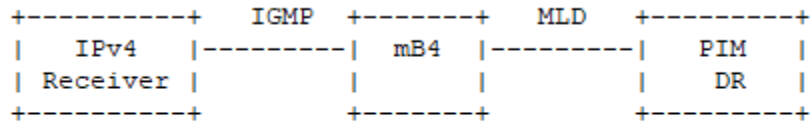
Scenario

IGMP Proxy configuration

- The configuration data for R1 in the above figure could be as follows:

```
{
  "ietf-routing:routing": {
    "control-plane-protocols": {
      "control-plane-protocol": [
        {
          "type": "ietf-igmp-mld-proxy:igmp-proxy",
          "name": "proxy1",
          "ietf-igmp-mld-proxy:igmp-proxy": {
            "interfaces": {
              "interface": [
                {
                  "interface-name": "1/1",
                  "version": 2,
                  "enable": true
                }
              ]
            }
          }
        }
      ]
    }
  }
}
```

Unsolved comments

- Mohamed (mohamed.boucadair@orange.com) thinks that IGMP/MLD proxy module should take account into IGMP-MLD Interworking Function in RFC8114. It combines the IGMP/MLD Proxying function and the address-synthesizing operations.

```
+----------+    IGMP   +-------+    MLD    +---------+
|   IPv4   |-----------|  mB4  |-----------|   PIM   |
| Receiver |           |       |           |   DR    |
+----------+           +-------+           +---------+

IGMP-MLD Interworking Function ( Figure 2 in RFC8114 )
```

- I think it is not proper to consider it when designing IGMP/MLD proxy module, because IGMP-MLD Interworking Function is the application of IGMP/MLD proxy.

What do you think of that ?

Next Step

- Apply for WG adoption

- Need more comments