

Example for Configuring PIM-SM

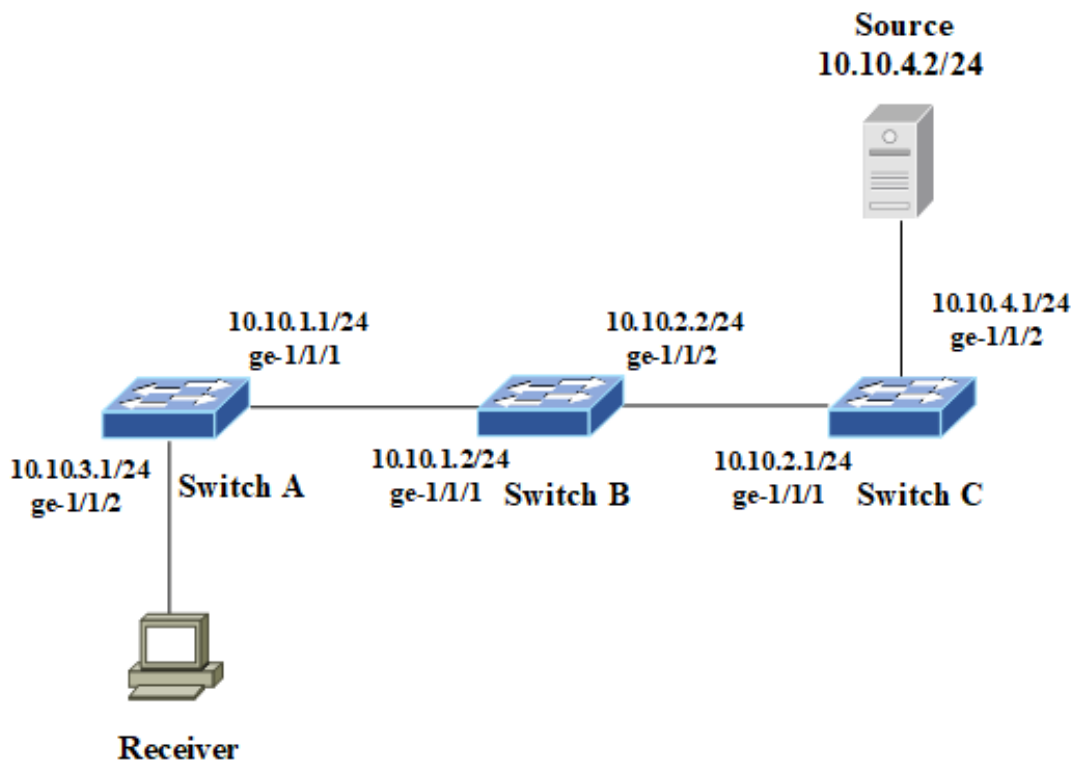
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Networking Requirements

In the following topology, a multicast Source sends the multicast traffic to the Receiver through Switch C, Switch B and Switch A.

- Configure ge-1/1/2 as an IGMP interface on Switch A which is connected to the Receiver.
- In this example, the static route will be used to make the switches in PIM-SM domain can communicate with each other.

Figure 1. PIM-SM Multicast Routing Configuration



Procedure

Switch A

Step1 Configure VLAN.

```
admin@XorPlus# set vlans vlan-id 2 l3-interface vlan-2
admin@XorPlus# set vlans vlan-id 3 l3-interface vlan-3
admin@XorPlus# set interface gigabit-ethernet ge-1/1/1 family ethernet-switching native-vlan-id 2
admin@XorPlus# set interface gigabit-ethernet ge-1/1/2 family ethernet-switching native-vlan-id 3
admin@XorPlus# set l3-interface vlan-interface vlan-2 address 10.10.1.1 prefix-length 24
admin@XorPlus# set l3-interface vlan-interface vlan-3 address 10.10.3.1 prefix-length 24
```

Step2 Enable IP routing.

```
admin@Xorplus# set ip routing enable true
```

Step3 Enable IGMP on the L3 VLAN interfaces of the PIM router connected to the receiver.

```
admin@XorPlus# set protocols igmp interface vlan-3
```

Step4 Enable PIM-SM on the L3 VLAN interfaces.

```
admin@XorPlus# set protocols pim interface vlan-2
admin@XorPlus# set protocols pim interface vlan-3
```

Step5 Configure static routes to other switches.

```
admin@XorPlus# set protocols static route 10.10.2.0/24 next-hop 10.10.1.2
admin@XorPlus# set protocols static route 10.10.4.0/24 next-hop 10.10.1.2
```

Step6 Commit the configurations.

```
admin@Xorplus# commit
```

Step7 Verify the configuration.

- Run **run show pim interface** command to show information about all interfaces on which PIM-SM is enabled.

```
admin@XorPlus# run show pim interface
Interface      State      Address    PIM Nbrs      PIM DR  FHR IfChannels
vlan-2         up         10.10.1.1    0             local   0           1
vlan-3         up         10.10.3.1    1             local   0           0
```

- Run **run show igmp interface** command to show IGMP interface information.

```
admin@XorPlus# run show igmp interface
Interface State Querier Timeout Version Groups
-----
vlan-2 DISABLED 10.10.1.1 None 2 0
vlan-3 UP 10.10.3.1 None 2 3

Interface      State      Address    V Querier Query Timer  Uptime
vlan-2         up         10.10.1.1    3  local   00:00:40  02:13:12
vlan-3         mtrc      10.10.3.1    3  other   ---:--:--  00:36:29
```

Switch B

Step1 Configure VLAN.

```
admin@XorPlus# set vlans vlan-id 2 l3-interface vlan-2
admin@XorPlus# set vlans vlan-id 3 l3-interface vlan-3
admin@XorPlus# set interface gigabit-ethernet ge-1/1/1 family ethernet-switching native-vlan-id 2
admin@XorPlus# set interface gigabit-ethernet ge-1/1/2 family ethernet-switching native-vlan-id 3
admin@XorPlus# set l3-interface vlan-interface vlan-2 address 10.10.1.2 prefix-length 24
admin@XorPlus# set l3-interface vlan-interface vlan-3 address 10.10.2.2 prefix-length 24
admin@XorPlus# set l3-interface loopback lo address 7.6.5.3 prefix-length 32
```

Step2 Enable IP routing.

```
admin@Xorplus# set ip routing enable true
```

Step3 Enable PIM-SM on the L3 VLAN interfaces.

```
admin@XorPlus# set protocols pim interface vlan-2
admin@XorPlus# set protocols pim interface vlan-3
```

Step4 Commit the configuration.

```
admin@Xorplus# commit
```

Switch C

Step1 Configure VLAN.

```
admin@XorPlus# set vlans vlan-id 2 l3-interface vlan-2
admin@XorPlus# set vlans vlan-id 3 l3-interface vlan-3
admin@XorPlus# set interface gigabit-ethernet ge-1/1/1 family ethernet-switching native-vlan-id 2
admin@XorPlus# set interface gigabit-ethernet ge-1/1/2 family ethernet-switching native-vlan-id 3
admin@XorPlus# set l3-interface vlan-interface vlan-2 address 10.10.2.1 prefix-length 24
admin@XorPlus# set l3-interface vlan-interface vlan-3 address 10.10.4.1 prefix-length 24
```

Step2 Enable IP routing.

```
admin@Xorplus# set ip routing enable true
```

Step3 Enable PIM-SM on the L3 VLAN interfaces.

```
admin@XorPlus# set protocols pim interface vlan-2
admin@XorPlus# set protocols pim interface vlan-3
```

Step4 Configure static routes to other switches.

```
admin@XorPlus#set protocols static route 10.10.1.0/24 next-hop 10.10.2.2
admin@XorPlus#set protocols static route 10.10.3.0/24 next-hop 10.10.2.2
```

Step5 Commit the configuration.

```
admin@Xorplus# commit
```

Step6 Verify the configuration.

- Run **run show pim interface** command to show information about all interfaces on which PIM-SM is enabled.

```
admin@XorPlus# run show pim interface
Interface      State      Address      PIM Nbrs      PIM DR  FHR  IfChannels
vlan-2         up         10.10.2.1    0              local   0    1
vlan-3         up         10.10.4.1    0              local   0    0
```