

The configuration of IPv6 PIM-SM In MSR Series

Keywords:MSR; IPv6 PIM-SM;MLD;Multicast;C-BSR;C-RP

I Requirement for the diagram

The interface of RTA connect the source of Multicast, S0/1 connect RTB, S0/2 connect RTC, enable IPv6 PIM-SM under every interface; The interface S0/2 of RTB connect RTA, S0/1 connect RTC, E0/1 connect host Receiver2, enable IPv6 PIM-SM under every interface. Enable MLD under every edge interface; The interface S0/1 of RTC connect RTA, S0/2 connect RTB, E0/1 connect host Receiver1, enable IPv6 PIM-SM under every interface. Enable MLD under every edge interface;

Device List: 3 MSR

CMW Version: Version 5.20, Beta 1106

II Network topology

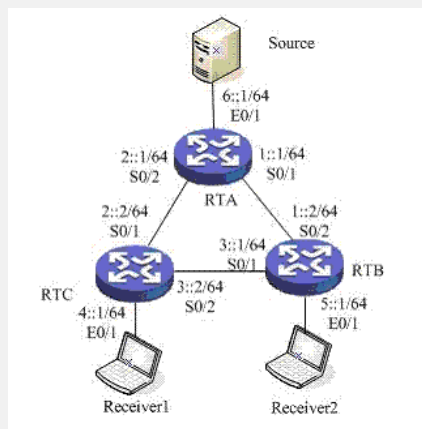


Figure 1 IPv6 PIM-SM

III Steps of configuration

RTA关键配置脚本

```
#
//Enable IPv6
ipv6
#
//Enable Ospf3
ospfv3 1
router-id 1.1.1.1
#
//Enable IPv6 Multicast protocol
multicast ipv6 routing-enable
#
//The address connect IPv6 multicast source
interface Ethernet0/1
port link-mode route
ipv6 address 6::1/64
undo ipv6 nd ra halt
ospfv3 1 area 0.0.0.0
pim ipv6 sm
#
//Connect RTB
interface Serial0/1
link-protocol ppp
ipv6 address 1::1/64
ospfv3 1 area 0.0.0.0
pim ipv6 sm
#
//Connect RTC
interface Serial0/2
link-protocol ppp
ipv6 address 2::1/64
ospfv3 1 area 0.0.0.0
pim ipv6 sm
#
```

RTB

```

#
//Enable IPv6
ipv6
#
//Enable Ospf3
ospfv3 1
router-id 2.2.2.2
#
//Enable IPv6 Multicast
multicast ipv6 routing-enable
#
//Connect RTA
interface Serial0/2
link-protocol ppp
ipv6 address 1::2/64
ospfv3 1 area 0.0.0.0
pim ipv6 sm
#
//Contect IPv6 muticast receiver Receiver2
interface Ethernet0/1
port link-mode route
ipv6 address 5::1/64
undo ipv6 nd ra halt
ospfv3 1 area 0.0.0.0
mld enable
mld version 2
#
//Connect RTC
interface Serial0/1
link-protocol ppp
ipv6 address 3::1/64
ospfv3 1 area 0.0.0.0
pim ipv6 sm
#

```

RTC

```

#
//Enable
ipv6
#
//Enable IPv6 OSPFv3
ospfv3 1
router-id 3.3.3.3
#
//Enable IPv6 Multicast
multicast ipv6 routing-enable
#
//ACL
acl ipv6 number 2000
rule permit source ff0e::1 64
//Connect RTA
interface Serial0/1
link-protocol ppp
ipv6 address 2::2/64
ospfv3 1 area 0.0.0.0
pim ipv6 sm
#
//Connect IPv6 Multicast receiver Receiver1
interface Ethernet0/1
port link-mode route
ipv6 address 4::1/64
undo ipv6 nd ra halt
ospfv3 1 area 0.0.0.0
mld enable
mld version 2
#
//Connect RTB
interface Serial0/2
link-protocol ppp
ipv6 address 3::2/64
ospfv3 1 area 0.0.0.0
pim ipv6 sm
#
//Config C-BSR and C-RP
pim ipv6
c-bsr 3::2
c-rp 3::2 group-policy 2000
#

```

IV Key notes in the configuration

- 1) The routing protocol using OSPFv3;
- 2) Enable IPv6;
- 3) Enable IPv6 Multicast;
- 4) Enable every interface of Router enable IPv6 PIM-SM;
- 5) Enable MLD under every edge port;

6) Config C-BSR and C-RP;

7) Server sending multicast package and receiver sending mld report package;

8) Using command below to check the result:

```
display pim ipv6 routing-table
```

```
display multicast ipv6 forwarding-table
```

V Error Shot

1) Is the routing works ok?

2) Is every interface enable PIM-SM?

3) Inspect every router has learn Bsr and Rp;

4) Is every router has multicast talbe?

5) Is Rp device has multicast table?

6) Is edge router has mld group item?

7) Check the (*,g) table.