# The configuration of BGP4+ Routing Reflect In MSR Series

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**The configuration of BGP4+ Routing Reflect In MSR Series**

Keywords: MSR;BGP4+;IPv6;Routing Reflect

**I        Requirement for the diagram**

A package updated by EBGP received by RouterB, and then trasfer to RouterC.

Router C is the Reflector, it has two RouterB and RouterD. There isn't connect of IBGP, every routing update info will be trasfer from one side to the other by RouterC.

Device List: RTA,RTB,RTC,RTD

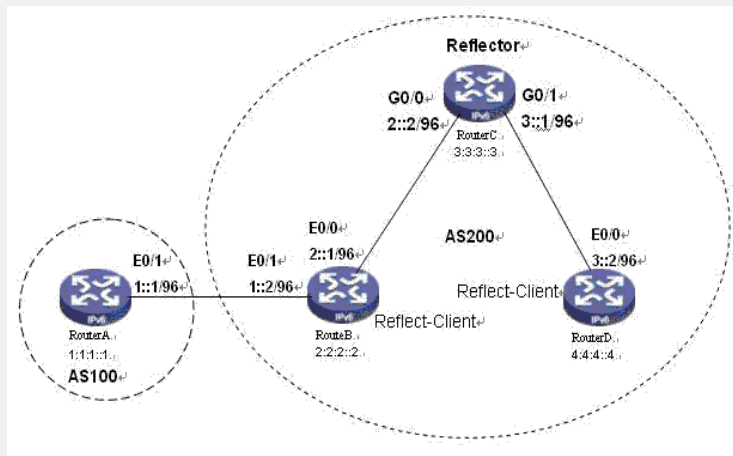CMW Version: Version 5.20, Beta 1105

**II        Network topology**



Figure 1-1 BGP4+ Routing Reflect

**III        Steps of configuration**

| RouterA |
|---|

```
#
 ipv6
#
interface Ethernet0/1
 port link-mode route
 ipv6 address 1::1/96
#
interface NULL0
#
interface LoopBack0
 ipv6 address 1:1:1::1/128
#
bgp 100
 undo synchronization
 #
 ipv6-family
//Release routing info of this subnet，here is the loopback0
 network 1:1:1::1 128
 undo synchronization
 //Set up EBGP peer
 peer 1::2 as-number 200
```

| RouterB |
|---|

```
#
 ipv6
#
interface Ethernet0/0
 port link-mode route
 ipv6 address 2::1/96
#
interface Ethernet0/1
 port link-mode route
 ipv6 address 1::2/96
#
interface LoopBack0
 ipv6 address 2:2:2::2/128
#
bgp 200
undo synchronization
#
ipv6-family
network 2:2:2::2 128
//Import direct routing
import-route direct
undo synchronization
//Tip: there is no RouterD as a peer here
peer 1::1 as-number 100
peer 2::2 as-number 200
```

RouterC

```
#
 ipv6
#
interface LoopBack0
 ipv6 address 3:3:3::3/128
#
interface GigabitEthernet0/0
 port link-mode route
 ipv6 address 2::2/96
#
interface GigabitEthernet0/1
 port link-mode route
 ipv6 address 3::1/96
//configuration of BGP
#
bgp 200
undo synchronization
#
ipv6-family
network 3:3:3::3 128
import-route direct
undo synchronization
group alanker internal
//Set all the peer of this group as the clients of reflector
peer alanker reflect-client
peer 2::1 group alanker
peer 3::2 group alanker
```

RouterD

```
#
 ipv6
#
interface LoopBack0
 ipv6 address 4:4:4::4/128
#
interface GigabitEthernet0/0
 port link-mode route
 ipv6 address 3::2/96
 ip address 1.0.0.4 255.255.255.0
#
interface GigabitEthernet0/1
 port link-mode route
#
bgp 200
undo synchronization
#
ipv6-family
network 4:4:4::4 128
import-route direct
undo synchronization
peer 3::1 as-number 200
```

**IV    Key notes in the configuration**

1) On RouterB and RouterD, need not config reflect-client,  all of this only config on RouterC;

2) Need import direct routing on RouterB and RouterC, otherwise, when ping 1:1:1:1, there will lost the next hop 1::1.

**V    Result Check**

1) Config another loopback address 2001: da8::1 in RouterA, and network this address under BGP view:
[RouterA-2021-bgp-af-ipv6]dis th
#
 ipv6-family
 network 1:1:1::1 128
 network 2001:DA8::1 128
    undo synchronization
    peer 1::2 as-number 200


There has the routing in routing table of BGP in both RouterB and RouterD:
<RouterB-2020>display bgp ipv6 routing-table

 Total Number of Routes: 9

 BGP Local router ID is 1.0.0.2
 Status codes: * - valid, > - best, d - damped,
            h - history, i - internal, s - suppressed, S - Stale
            Origin : i - IGP, e - EGP, ? - incomplete

 *> Network : 1::                 PrefixLen : 96
    NextHop : 1::2                LocPrf  :
    PrefVal : 0                   Label   : NULL
    MED   : 0
    Path/Ogn: ?

 *> Network : 1:1:1::1            PrefixLen : 128
    NextHop : 1::1                LocPrf  :
    PrefVal : 0                   Label   : NULL
    MED   : 0
    Path/Ogn: 100 i

 *> Network : 2::                 PrefixLen : 96
    NextHop : 2::1                LocPrf  :
    PrefVal : 0                   Label   : NULL
    MED   : 0
    Path/Ogn: ?

 * i Network : 2::                PrefixLen : 96
    NextHop : 2::2                LocPrf  : 100
    PrefVal : 0                   Label   : NULL
    MED   : 0
    Path/Ogn: ?

 *> Network : 2:2:2::2            PrefixLen : 128
    NextHop : ::1                 LocPrf  :
    PrefVal : 0                   Label   : NULL
    MED   : 0
    Path/Ogn: i

 *>i Network : 3::                PrefixLen : 96
    NextHop : 2::2                LocPrf  : 100
    PrefVal : 0                   Label   : NULL
    MED   : 0
    Path/Ogn: ?

 *>i Network : 3:3:3::3           PrefixLen : 128
    NextHop : 2::2                LocPrf  : 100
    PrefVal : 0                   Label   : NULL
    MED   : 0
    Path/Ogn: i

 *>i Network : 4:4:4::4           PrefixLen : 128
    NextHop : 3::2                LocPrf  : 100

```
        PrefVal : 0                      Label   : NULL
        MED   : 0
        Path/Ogn: i


 *> Network : 2001:DA8::1              PrefixLen : 128
        NextHop : 1::1                   LocPrf   :
        PrefVal : 0              Label   : NULL
        MED   : 0
        Path/Ogn: 100 i


The address can be reached from D:
   <RouterD-3020>ping ipv6 2001:da8::1
  PING 2001:da8::1 : 56  data bytes, press CTRL_C to break
   Reply from 2001:DA8::1
   bytes=56 Sequence=1 hop limit=62 time = 3 ms
   Reply from 2001:DA8::1
   bytes=56 Sequence=2 hop limit=62 time = 3 ms
   Reply from 2001:DA8::1
   bytes=56 Sequence=3 hop limit=62 time = 3 ms
   Reply from 2001:DA8::1
   bytes=56 Sequence=4 hop limit=62 time = 4 ms
   Reply from 2001:DA8::1
   bytes=56 Sequence=5 hop limit=62 time = 3 ms

   --- 2001:da8::1 ping statistics ---
   5 packet(s) transmitted
   5 packet(s) received
   0.00% packet loss
   round-trip min/avg/max = 3/3/4 ms
```