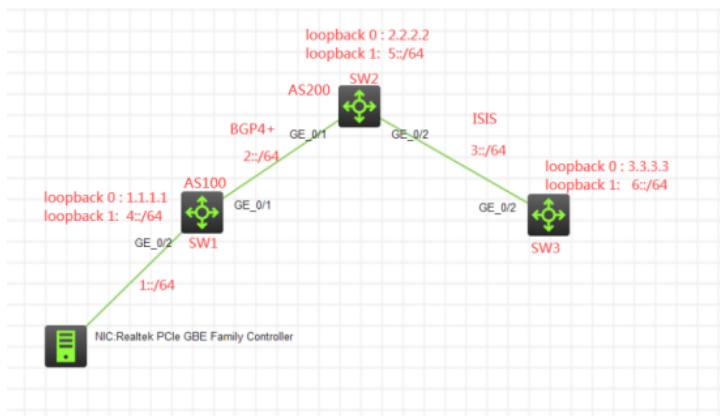


知 S5820 IPV6 BGP4+与RIPng路由重分布典型组网配置案例

IPv6 BGP RIPng H3C模拟器 韦家宁 2020-03-15 发表

组网及说明



组网说明：

本案例采用H3C HCL模拟器的S5820来模拟IPv6 BGP4+与RIPng路由重分布的典型组网配置。SW1与SW2运行BGP4+路由协议，SW2与SW3运行RIPng路由协议，为了实现物理机能够PING通SW3，因此需要在SW2配置BGP4+与RIPng路由重分布

配置步骤

- 1、按照网络拓扑图正确配置IP地址
- 2、SW1与SW2运行BGP4+路由协议
- 3、SW2与SW3运行RIPng路由协议
- 4、SW2配置BGP4+与RIPng路由重分布

配置关键点

SW1:

```
<H3C>sys
System View: return to User View with Ctrl+Z.
[H3C]sysname SW1
[SW1]int gi 1/0/2
[SW1-GigabitEthernet1/0/2]port link-mode route
[SW1-GigabitEthernet1/0/2]ipv6 address 1::1 64
[SW1-GigabitEthernet1/0/2]quit
[SW1]int gi 1/0/1
[SW1-GigabitEthernet1/0/1]port link-mode route
[SW1-GigabitEthernet1/0/1]description <connect to SW2>
[SW1-GigabitEthernet1/0/1]ipv6 address 2::1 64
[SW1-GigabitEthernet1/0/1]quit
[SW1]int loopback 0
[SW1-LoopBack0]ip address 1.1.1.1 32
[SW1-LoopBack0]quit
[SW1]int loopback 1
[SW1-LoopBack1]ipv6 address 4::1 64
[SW1-LoopBack1]quit
```

SW1 BGP4+关键配置点:

```
[SW1] bgp 100
[SW1-bgp-default]router-id 1.1.1.1
[SW1-bgp-default]peer 2::2 as-number 200
[SW1-bgp-default]address-family ipv6 unicast
[SW1-bgp-default-ipv6]peer 2::2 enable
[SW1-bgp-default-ipv6]import-route direct
[SW1-bgp-default-ipv6]network 1:: 64
[SW1-bgp-default-ipv6]quit
[SW1-bgp-default]quit
```

SW2:

```
<H3C>sys
System View: return to User View with Ctrl+Z.
[H3C]sysname SW2
[SW2]int loopback 0
[SW2-LoopBack0]ip address 2.2.2.2 32
[SW2-LoopBack0]quit
[SW2]int loopback 1
[SW2-LoopBack1]ipv6 address 5::1 64
[SW2-LoopBack1]quit
[SW2]int gi 1/0/1
[SW2-GigabitEthernet1/0/1]port link-mode route
[SW2-GigabitEthernet1/0/1]des <connect to SW1>
[SW2-GigabitEthernet1/0/1]ipv6 address 2::2 64
[SW2-GigabitEthernet1/0/1]quit
[SW2]int gi 1/0/2
[SW2-GigabitEthernet1/0/2]port link-mode route
[SW2-GigabitEthernet1/0/2]des <connect to SW3>
[SW2-GigabitEthernet1/0/2]ipv6 address 3::2 64
[SW2-GigabitEthernet1/0/2]quit
```

SW2 BGP4+与RIPng重分布关键配置点:

```
[SW2]bgp 200
[SW2-bgp-default]router-id 2.2.2.2
[SW2-bgp-default]peer 2::1 as-number 100
[SW2-bgp-default]address-family ipv6 unicast
[SW2-bgp-default-ipv6]import-route direct
[SW2-bgp-default-ipv6]import-route ripng 1
[SW2-bgp-default-ipv6]peer 2::1 enable
[SW2-bgp-default-ipv6]quit
[SW2-bgp-default]quit
[SW2]ripng 1
[SW2-ripng-1]import-route direct
[SW2-ripng-1]import-route bgp4+
[SW2-ripng-1]quit
[SW2]int gi 1/0/2
[SW2-GigabitEthernet1/0/2]ripng 1 enable
[SW2-GigabitEthernet1/0/2]quit
```

SW3:

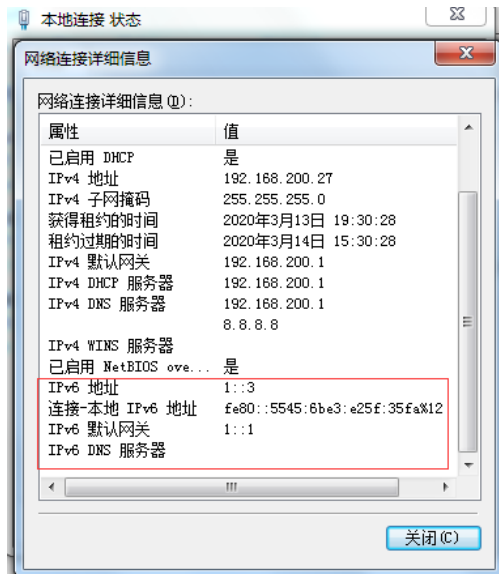
```
<H3C>sys
System View: return to User View with Ctrl+Z.
[H3C]sysname SW3
[SW3]int loopback 0
[SW3-LoopBack0]ip address 3.3.3.3 32
[SW3-LoopBack0]quit
[SW3]int loopback 1
[SW3-LoopBack1]ipv6 address 6::1 64
[SW3-LoopBack1]quit
[SW3]int gi 1/0/2
[SW3-GigabitEthernet1/0/2]port link-mode route
[SW3-GigabitEthernet1/0/2]des <connect to SW2>
[SW3-GigabitEthernet1/0/2]ipv6 address 3::1 64
[SW3-GigabitEthernet1/0/2]quit
```

SW3 RIPng关键配置点:

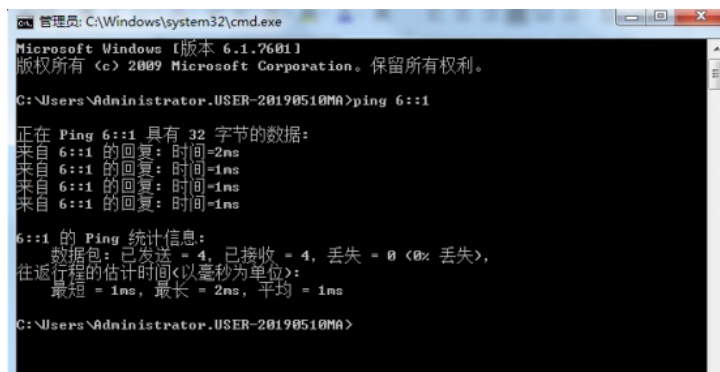
```
[SW3]ripng 1
[SW3-ripng-1]import-route direct
[SW3-ripng-1]quit
[SW3]int loopback 1
[SW3-LoopBack1]ripng 1 enable
[SW3-LoopBack1]quit
[SW3]int gi 1/0/2
[SW3-GigabitEthernet1/0/2]ripng 1 enable
[SW3-GigabitEthernet1/0/2]quit
```

测试:

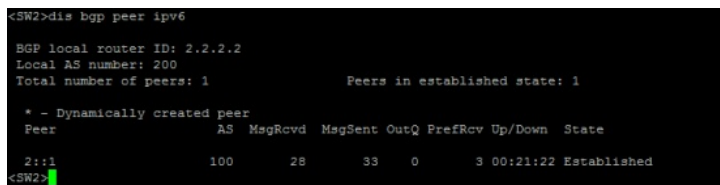
物理机填写IPv6地址:



物理机能PING通SW3的loopback 1:



分别查看SW1、SW2的BGP4+邻居信息:



分别查看SW1、SW2、SW3的IPv6路由表:

[SW1]dis ipv6 routing-table

Destinations : 12 Routes : 12

Destination: ::1/128 Protocol : Direct
NextHop : ::1 Preference: 0
Interface : InLoop0 Cost : 0

Destination: 1::/64 Protocol : Direct
NextHop : :: Preference: 0
Interface : GE1/0/2 Cost : 0

Destination: 1::1/128	Protocol : Direct
NextHop : ::1	Preference: 0
Interface : InLoop0	Cost : 0
Destination: 2::/64	Protocol : Direct
NextHop : ::	Preference: 0
Interface : GE1/0/1	Cost : 0
Destination: 2::1/128	Protocol : Direct
NextHop : ::1	Preference: 0
Interface : InLoop0	Cost : 0
Destination: 3::/64	Protocol : BGP4+
NextHop : 2::2	Preference: 255
Interface : GE1/0/1	Cost : 0
Destination: 4::/64	Protocol : Direct
NextHop : ::	Preference: 0
Interface : Loop1	Cost : 0
Destination: 4::1/128	Protocol : Direct
NextHop : ::1	Preference: 0
Interface : InLoop0	Cost : 0
Destination: 5::/64	Protocol : BGP4+
NextHop : 2::2	Preference: 255
Interface : GE1/0/1	Cost : 0
Destination: 6::/64	Protocol : BGP4+
NextHop : 2::2	Preference: 255
Interface : GE1/0/1	Cost : 1
Destination: FE80::/10	Protocol : Direct
NextHop : ::	Preference: 0
Interface : InLoop0	Cost : 0
Destination: FF00::/8	Protocol : Direct
NextHop : ::	Preference: 0
Interface : NULL0	Cost : 0

[SW1]

<SW2>dis ipv6 routing-table

Destinations : 12 Routes : 12

Destination: ::1/128	Protocol : Direct
NextHop : ::1	Preference: 0
Interface : InLoop0	Cost : 0
Destination: 1::/64	Protocol : BGP4+
NextHop : 2::1	Preference: 255
Interface : GE1/0/1	Cost : 0
Destination: 2::/64	Protocol : Direct
NextHop : ::	Preference: 0
Interface : GE1/0/1	Cost : 0
Destination: 2::2/128	Protocol : Direct
NextHop : ::1	Preference: 0
Interface : InLoop0	Cost : 0
Destination: 3::/64	Protocol : Direct
NextHop : ::	Preference: 0

Interface : GE1/0/2	Cost : 0
Destination: 3::2/128	Protocol : Direct
NextHop : ::1	Preference: 0
Interface : InLoop0	Cost : 0
Destination: 4::/64	Protocol : BGP4+
NextHop : 2::1	Preference: 255
Interface : GE1/0/1	Cost : 0
Destination: 5::/64	Protocol : Direct
NextHop : ::	Preference: 0
Interface : Loop1	Cost : 0
Destination: 5::1/128	Protocol : Direct
NextHop : ::1	Preference: 0
Interface : InLoop0	Cost : 0
Destination: 6::/64	Protocol : RIPvng
NextHop : FE80::50BB:B1FF:FED0:307	Preference: 100
Interface : GE1/0/2	Cost : 1
Destination: FE80::/10	Protocol : Direct
NextHop : ::	Preference: 0
Interface : InLoop0	Cost : 0
Destination: FF00::/8	Protocol : Direct
NextHop : ::	Preference: 0
Interface : NULL0	Cost : 0

<SW2>

[SW3]dis ipv6 routing-table

Destinations : 11 Routes : 11

Destination: ::1/128	Protocol : Direct
NextHop : ::1	Preference: 0
Interface : InLoop0	Cost : 0
Destination: 1::/64	Protocol : RIPvng
NextHop : FE80::50BB:ADFF:FE4E:207	Preference: 100
Interface : GE1/0/2	Cost : 1
Destination: 2::/64	Protocol : RIPvng
NextHop : FE80::50BB:ADFF:FE4E:207	Preference: 100
Interface : GE1/0/2	Cost : 1
Destination: 3::/64	Protocol : Direct
NextHop : ::	Preference: 0
Interface : GE1/0/2	Cost : 0
Destination: 3::1/128	Protocol : Direct
NextHop : ::1	Preference: 0
Interface : InLoop0	Cost : 0
Destination: 4::/64	Protocol : RIPvng
NextHop : FE80::50BB:ADFF:FE4E:207	Preference: 100
Interface : GE1/0/2	Cost : 1
Destination: 5::/64	Protocol : RIPvng
NextHop : FE80::50BB:ADFF:FE4E:207	Preference: 100
Interface : GE1/0/2	Cost : 1
Destination: 6::/64	Protocol : Direct

```
NextHop  : ::
Interface : Loop1
Preference: 0
Cost     : 0

Destination: 6::1/128
NextHop    : ::1
Interface  : InLoop0
Protocol   : Direct
Preference: 0
Cost      : 0

Destination: FE80::/10
NextHop     : ::
Interface   : InLoop0
Protocol    : Direct
Preference: 0
Cost       : 0

Destination: FF00::/8
NextHop      : ::
Interface    : NULL0
Protocol     : Direct
Preference: 0
Cost        : 0
[SW3]
```

至此， S5820 IPV6 BGP4+与RIPng路由重分布典型组网配置案例已完成！