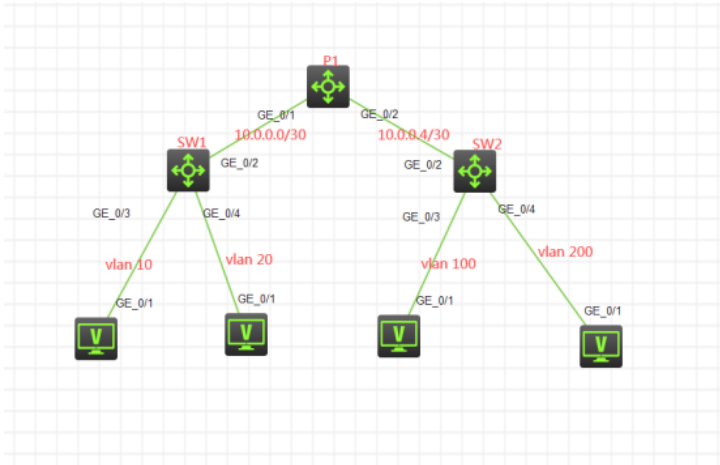


知 S5820 MPLS VPN IBGP典型组网配置案例

[BGP](#)[MPLS L3VPN](#)[OSPF](#)[H3C模拟器](#)[韦家宁](#)

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组网及说明



组网说明：

本案例采用H3C HCL模拟器的S5820交换机来模拟 MPLS VPN IBGP 典型组网配置。为了实现业务的相互隔离，需要将不同的VLAN绑定到不同的VPN实例中进行业务的互通，因此在本案例引入多实例VPN，将相关的业务进行捆绑。其中SW1、SW2属于AS100，均为PE，P1为公网的P设备，要求SW1与SW2跨越P1最终建立IBGP邻居关系，宣告业务网段，使得相同VPN实例的业务能互通，不同VPN实例的业务不能互通，为了实现SW1与SW2能跨越P1建立IBGP邻居关系，因此SW1、SW2、P1之间需要运行OSPF路由协议。

VPN实例规划如下：

VPN实例名称	RD值	RT值	业务类型	备注
vpn-rt	100:1	100:1	实时业务	
vpn-nrt	200:1	200:1	非实时业务	

IP地址规划如下：

设备名称	接口/VLAN	IP地址	子网掩码位数	所属VPN实例	备注
SW1	Gi 1/0/2	10.0.0.1	30	-	
	VLAN 10	192.168.10.1	24	vpn-rt	
	VLAN 20	192.168.20.1	24	vpn-nrt	
	Loopback 0	1.1.1.1	32	vpn-rt	Router-id
SW2	Gi 1/0/2	10.0.0.5	30	-	
	VLAN 100	172.16.10.1	24	vpn-rt	
	VLAN 200	172.16.20.1	24	vpn-nrt	
	Loopback 0	3.3.3.3	32		Router-id
P1	Gi 1/0/1	10.0.0.2	30		
	Gi 1/0/2	10.0.0.6	30		
	Loopback 0	2.2.2.2	30		Router-id

配置步骤

SW1：

```
<H3C>sys
System View: return to User View with Ctrl+Z.
[H3C]sysname SW1
[SW1]int loopback 0
[SW1-LoopBack0]ip address 1.1.1.1 32
[SW1-LoopBack0]quit
#创建VPN实例，指定RD值、RT值
[SW1]ip vpn-instance vpn-rt
[SW1-vpn-instance-vpn-rt]route-distinguisher 100:1
[SW1-vpn-instance-vpn-rt]vpn-target 100:1
[SW1-vpn-instance-vpn-rt]quit
[SW1]ip vpn-instance vpn-nrt
[SW1-vpn-instance-vpn-nrt]route-distinguisher 200:1
[SW1-vpn-instance-vpn-nrt]vpn-target 200:1
[SW1-vpn-instance-vpn-nrt]quit
[SW1]mpls lsr-id 1.1.1.1
```

```

[SW1]mpls ldp
[SW1-ldp]quit
[SW1]vlan 10
[SW1-vlan10]quit
[SW1]vlan 20
[SW1-vlan20]quit
[SW1]int vlan 10
[SW1-Vlan-interface10]ip binding vpn-instance vpn-rt //将VLAN绑定到VPN实例
Some configurations on the interface are removed.
[SW1-Vlan-interface10]ip address 192.168.10.1 24
[SW1-Vlan-interface10]quit
[SW1]int vlan 20
[SW1-Vlan-interface20]ip binding vpn-instance vpn-nrt
Some configurations on the interface are removed.
[SW1-Vlan-interface20]ip address 192.168.20.1 24
[SW1-Vlan-interface20]quit
[SW1]int gi 1/0/3
[SW1-GigabitEthernet1/0/3]port link-mode bridge
[SW1-GigabitEthernet1/0/3]port link-type access
[SW1-GigabitEthernet1/0/3]port access vlan 10
[SW1-GigabitEthernet1/0/3]quit
[SW1]int gi 1/0/4
[SW1-GigabitEthernet1/0/4]port link-mode bridge
[SW1-GigabitEthernet1/0/4]port link-type access
[SW1-GigabitEthernet1/0/4]port access vlan 20
[SW1-GigabitEthernet1/0/4]quit
[SW1]int gi 1/0/2
[SW1-GigabitEthernet1/0/2]port link-mode route
[SW1-GigabitEthernet1/0/2]des <connect to P1>
[SW1-GigabitEthernet1/0/2]ip address 10.0.0.1 30
[SW1-GigabitEthernet1/0/2]mpls enable
[SW1-GigabitEthernet1/0/2]mpls ldp enable
[SW1-GigabitEthernet1/0/2]quit
[SW1]ospf 1 router-id 1.1.1.1
[SW1-ospf-1]area 0.0.0.0
[SW1-ospf-1-area-0.0.0.0]network 10.0.0.1 0.0.0.0
[SW1-ospf-1-area-0.0.0.0]network 1.1.1.1 0.0.0.0
[SW1-ospf-1-area-0.0.0.0]quit
[SW1-ospf-1]quit
[SW1]bgp 100
[SW1-bgp-default]router-id 1.1.1.1
[SW1-bgp-default]peer 3.3.3.3 as-number 100
[SW1-bgp-default]address-family ipv4 unicast //创建IPv4地址族
[SW1-bgp-default-ipv4]peer 3.3.3.3 enable
[SW1-bgp-default-ipv4]import-route direct
[SW1-bgp-default-ipv4]quit
[SW1-bgp-default]address-family vpnv4 //创建VPNv4地址族
[SW1-bgp-default-vpnv4]peer 3.3.3.3 enable
[SW1-bgp-default-vpnv4]quit
[SW1-bgp-default]ip vpn-instance vpn-rt
[SW1-bgp-default-vpn-rt]address-family ipv4 unicast
[SW1-bgp-default-ipv4-vpn-rt]network 192.168.10.0 255.255.255.0
[SW1-bgp-default-ipv4-vpn-rt]quit
[SW1-bgp-default-vpn-rt]quit
[SW1-bgp-default]ip vpn-instance vpn-nrt
[SW1-bgp-default-vpn-nrt]address-family ipv4 unicast
[SW1-bgp-default-ipv4-vpn-nrt]network 192.168.20.0 255.255.255.0
[SW1-bgp-default-ipv4-vpn-nrt]quit
[SW1-bgp-default-vpn-nrt]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 3.3.3.3 32
[SW2-LoopBack0]quit
[SW2]ip vpn-instance vpn-rt
[SW2-vpn-instance-vpn-rt]route-distinguisher 100:1
[SW2-vpn-instance-vpn-rt]vpn-target 100:1
[SW2-vpn-instance-vpn-rt]quit
[SW2]ip vpn-instance vpn-nrt
[SW2-vpn-instance-vpn-nrt]route-distinguisher 200:1
[SW2-vpn-instance-vpn-nrt]vpn-target 200:1
[SW2-vpn-instance-vpn-nrt]quit
[SW2]router id 3.3.3.3
[SW2]mpls lsr-id 3.3.3.3
[SW2]mpls ldp
[SW2-ldp]quit
[SW2]vlan 100
[SW2-vlan100]quit
[SW2]vlan 200
[SW2-vlan200]quit
[SW2]int vlan 100
[SW2-Vlan-interface100]ip binding vpn-instance vpn-rt
Some configurations on the interface are removed.
[SW2-Vlan-interface100]ip address 172.16.10.1 24
[SW2-Vlan-interface100]quit
[SW2]int vlan 200
[SW2-Vlan-interface200]ip binding vpn-instance vpn-nrt
Some configurations on the interface are removed.
[SW2-Vlan-interface200]ip address 172.16.20.1 24
[SW2-Vlan-interface200]quit
[SW2]int gi 1/0/3
[SW2-GigabitEthernet1/0/3]port link-mode bridge
[SW2-GigabitEthernet1/0/3]port link-type access
[SW2-GigabitEthernet1/0/3]port access vlan 100
[SW2-GigabitEthernet1/0/3]quit
[SW2]int gi 1/0/4
[SW2-GigabitEthernet1/0/4]port link-mode bridge
[SW2-GigabitEthernet1/0/4]port link-type access
[SW2-GigabitEthernet1/0/4]port access vlan 200
[SW2-GigabitEthernet1/0/4]quit
[SW2]int gi 1/0/2
[SW2-GigabitEthernet1/0/2]port link-mode route
[SW2-GigabitEthernet1/0/2]des <connect to P1>
[SW2-GigabitEthernet1/0/2]ip address 10.0.0.5 30
[SW2-GigabitEthernet1/0/2]mpls enable
[SW2-GigabitEthernet1/0/2]mpls ldp enable
[SW2-GigabitEthernet1/0/2]quit
[SW2]ospf 1 router-id 3.3.3.3
[SW2-ospf-1]area 0.0.0.0
[SW2-ospf-1-area-0.0.0.0]network 10.0.0.5 0.0.0.0
[SW2-ospf-1-area-0.0.0.0]network 3.3.3.3 0.0.0.0
[SW2-ospf-1-area-0.0.0.0]quit
[SW2-ospf-1]quit
[SW2]bgp 100
[SW2-bgp-default]router-id 3.3.3.3
[SW2-bgp-default]peer 1.1.1.1 as-number 100
[SW2-bgp-default]address-family ipv4 unicast
[SW2-bgp-default-ipv4]peer 1.1.1.1 enable
[SW2-bgp-default-ipv4]import-route direct
[SW2-bgp-default-ipv4]quit
[SW2-bgp-default]address-family vpnv4
[SW2-bgp-default-vpnv4]peer 1.1.1.1 enable
[SW2-bgp-default-vpnv4]quit
[SW2-bgp-default]ip vpn-instance vpn-rt
```

```
[SW2-bgp-default-vpn-rt]address-family ipv4 unicast
[SW2-bgp-default-ipv4-vpn-rt]network 172.16.10.0 255.255.255.0
[SW2-bgp-default-ipv4-vpn-rt]quit
[SW2-bgp-default-vpn-rt]quit
[SW2-bgp-default]ip vpn-instance vpn-nrt
[SW2-bgp-default-vpn-nrt]address-family ipv4 unicast
[SW2-bgp-default-ipv4-vpn-nrt]network 172.16.20.0 255.255.255.0
[SW2-bgp-default-ipv4-vpn-nrt]quit
[SW2-bgp-default-vpn-nrt]quit
[SW2-bgp-default]quit
[SW2]
```

P1:

```
<H3C>sys
System View: return to User View with Ctrl+Z.
[H3C]sysname P1
[P1]int loopback 0
[P1-LoopBack0]ip address 2.2.2.2 32
[P1-LoopBack0]quit
[P1]router id 2.2.2.2
[P1]mpls lsr-id 2.2.2.2
[P1]mpls ldp
[P1-ldp]quit
[P1]int gi 1/0/1
[P1-GigabitEthernet1/0/1]port link-mode route
[P1-GigabitEthernet1/0/1]des <connect to SW1>
[P1-GigabitEthernet1/0/1]ip address 10.0.0.2 30
[P1-GigabitEthernet1/0/1]mpls enable
[P1-GigabitEthernet1/0/1]mpls ldp enable
[P1-GigabitEthernet1/0/1]quit
[P1]int gi 1/0/2
[P1-GigabitEthernet1/0/2]port link-mode route
[P1-GigabitEthernet1/0/2]des <connect to SW2>
[P1-GigabitEthernet1/0/2]ip address 10.0.0.6 30
[P1-GigabitEthernet1/0/2]mpls enable
[P1-GigabitEthernet1/0/2]mpls ldp enable
[P1-GigabitEthernet1/0/2]quit
[P1]ospf 1 router-id 2.2.2.2
[P1-ospf-1]area 0.0.0.0
[P1-ospf-1-area-0.0.0.0]network 2.2.2.2 0.0.0.0
[P1-ospf-1-area-0.0.0.0]network 10.0.0.2 0.0.0.0
[P1-ospf-1-area-0.0.0.0]network 10.0.0.6 0.0.0.0
[P1-ospf-1-area-0.0.0.0]quit
[P1-ospf-1]quit
```

PC都填写IP地址:

配置PC_3

接口	状态	IPv4地址	IPv6地址
G0/0/1	UP	192.168.10.2/24	

刷新

接口管理

☐ 禁用

☒ 启用

IPv4配置:

☐ DHCP

☒ 静态

IPv4地址:

192.168.10.2

掩码地址:

255.255.255.0

IPv4网关:

192.168.10.1

启用

配置PC_4

接口	状态	IPv4地址	IPv6地址
G0/0/1	UP	192.168.20.2/24	

刷新

接口管理

☐ 禁用

☒ 启用

IPv4配置:

☐ DHCP

☒ 静态

IPv4地址:

192.168.20.2

掩码地址:

255.255.255.0

IPv4网关:

192.168.20.1

启用

配置PC_5

接口	状态	IPv4地址	IPv6地址
G0/0/1	UP	172.16.10.2/24	

刷新

接口管理

☐ 禁用

☒ 启用

IPv4配置:

☐ DHCP

☒ 静态

IPv4地址:

172.16.10.2

掩码地址:

255.255.255.0

IPv4网关:

172.16.10.1

启用

配置PC_6

接口	状态	IPv4地址	IPv6地址
G0/0/1	UP	172.16.20.2/24	

刷新

接口管理

☐ 禁用
 ☒ 启用

IPv4配置:

☐ DHCP
 ☒ 静态

IPv4地址:

掩码地址:

IPv4网关:

启用

相同VPN实例的业务可以互通，不同VPN实例的业务不可以互通：

hcl_wcec5l

S5820V2-54QS-GE_1 x S5820V2-54QS-GE_2 x PC_3 x PC_4 x PC_5 x PC_6 x

```

<H3C>
<H3C>ping 172.16.10.2
Ping 172.16.10.2 (172.16.10.2): 56 data bytes, press CTRL_C to break
56 bytes from 172.16.10.2: icmp_seq=0 ttl=253 time=3.000 ms
56 bytes from 172.16.10.2: icmp_seq=1 ttl=253 time=2.000 ms
56 bytes from 172.16.10.2: icmp_seq=2 ttl=253 time=3.000 ms
56 bytes from 172.16.10.2: icmp_seq=3 ttl=253 time=4.000 ms
56 bytes from 172.16.10.2: icmp_seq=4 ttl=253 time=3.000 ms

--- Ping statistics for 172.16.10.2 ---
5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss
round-trip min/avg/max/std-dev = 2.000/3.000/4.000/0.632 ms
<H3C>^Apr  5 18:09:10:021 2020 H3C PING/6/PING STATISTICS: Ping statistics for 172.16.10.2
: 5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss, round-trip min/avg/max/
std-dev = 2.000/3.000/4.000/0.632 ms.

<H3C>ping 172.16.20.2
Ping 172.16.20.2 (172.16.20.2): 56 data bytes, press CTRL_C to break
Request time out
Request time out
Request time out
Request time out
Request time out

--- Ping statistics for 172.16.20.2 ---
5 packet(s) transmitted, 0 packet(s) received, 100.0% packet loss
  
```

hcl_wcec5l

S5820V2-54QS-GE_1 x S5820V2-54QS-GE_2 x PC_3 x PC_4 x PC_5 x PC_6 x

```

<H3C>ping 172.16.20.2
Ping 172.16.20.2 (172.16.20.2): 56 data bytes, press CTRL_C to break
56 bytes from 172.16.20.2: icmp_seq=0 ttl=255 time=0.000 ms
56 bytes from 172.16.20.2: icmp_seq=1 ttl=255 time=0.000 ms
56 bytes from 172.16.20.2: icmp_seq=2 ttl=255 time=0.000 ms
56 bytes from 172.16.20.2: icmp_seq=3 ttl=255 time=0.000 ms
56 bytes from 172.16.20.2: icmp_seq=4 ttl=255 time=0.000 ms

--- Ping statistics for 172.16.20.2 ---
5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss
round-trip min/avg/max/std-dev = 0.000/0.000/0.000/0.000 ms
<H3C>^Apr  5 18:09:54:441 2020 H3C PING/6/PING STATISTICS: Ping statistics for 172.16.20.2
: 5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss, round-trip min/avg/max/
std-dev = 0.000/0.000/0.000/0.000 ms.

<H3C>ping 172.16.10.2
Ping 172.16.10.2 (172.16.10.2): 56 data bytes, press CTRL_C to break
Request time out
Request time out
Request time out
Request time out
Request time out

--- Ping statistics for 172.16.10.2 ---
  
```

```
hcl_wcec5i
S5820V2-54Q5-GE_1 S5820V2-54Q5-GE_2 PC_3 PC_4 PC_5 PC_6
<H3C>%Apr 5 18:09:04:934 2020 H3C SHELL/5/SHELL_LOGIN: Console logged in from con0.

<H3C>ping 192.168.10.2
Ping 192.168.10.2 (192.168.10.2): 56 data bytes, press CTRL_C to break
56 bytes from 192.168.10.2: icmp_seq=0 ttl=253 time=4.000 ms
56 bytes from 192.168.10.2: icmp_seq=1 ttl=253 time=3.000 ms
56 bytes from 192.168.10.2: icmp_seq=2 ttl=253 time=2.000 ms
56 bytes from 192.168.10.2: icmp_seq=3 ttl=253 time=1.000 ms
56 bytes from 192.168.10.2: icmp_seq=4 ttl=253 time=2.000 ms

--- Ping statistics for 192.168.10.2 ---
5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss
round-trip min/avg/max/std-dev = 1.000/2.400/4.000/1.020 ms
<H3C>%Apr 5 18:10:32:935 2020 H3C PING/6/PING_STATISTICS: Ping statistics for 192.168.10.2: 5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss, round-trip min/avg/max/std-dev = 1.000/2.400/4.000/1.020 ms.

<H3C>ping 192.168.20.2
Ping 192.168.20.2 (192.168.20.2): 56 data bytes, press CTRL_C to break
Request time out
Request time out
Request time out
Request time out
Request time out
```

```
hcl_wcec5i
S5820V2-54Q5-GE_1 S5820V2-54Q5-GE_2 PC_3 PC_4 PC_5 PC_6
<H3C>%Apr 5 18:14:14:157 2020 H3C SHELL/5/SHELL_LOGIN: Console logged in from con0.

<H3C>ping 192.168.20.2
Ping 192.168.20.2 (192.168.20.2): 56 data bytes, press CTRL_C to break
56 bytes from 192.168.20.2: icmp_seq=0 ttl=253 time=3.000 ms
56 bytes from 192.168.20.2: icmp_seq=1 ttl=253 time=2.000 ms
56 bytes from 192.168.20.2: icmp_seq=2 ttl=253 time=2.000 ms
56 bytes from 192.168.20.2: icmp_seq=3 ttl=253 time=2.000 ms
56 bytes from 192.168.20.2: icmp_seq=4 ttl=253 time=2.000 ms

--- Ping statistics for 192.168.20.2 ---
5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss
round-trip min/avg/max/std-dev = 2.000/2.200/3.000/0.400 ms
<H3C>%Apr 5 18:14:21:870 2020 H3C PING/6/PING_STATISTICS: Ping statistics for 192.168.20.2: 5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss, round-trip min/avg/max/std-dev = 2.000/2.200/3.000/0.400 ms.

<H3C>ping 192.168.10.2
Ping 192.168.10.2 (192.168.10.2): 56 data bytes, press CTRL_C to break
Request time out
Request time out
Request time out
Request time out
Request time out
```

查看SW1的OSPF邻居状态:

```
<SW1>dis ospf peer

OSPF Process 1 with Router ID 1.1.1.1
Neighbor Brief Information

Area: 0.0.0.0
Router ID Address Pri Dead-Time State Interface
2.2.2.2 10.0.0.2 1 32 Full/DR GE1/0/2
<SW1>
```

查看P1的OSPF邻居状态:

```
<P1>dis ospf peer

OSPF Process 1 with Router ID 2.2.2.2
Neighbor Brief Information

Area: 0.0.0.0
Router ID Address Pri Dead-Time State Interface
1.1.1.1 10.0.0.1 1 39 Full/BDR GE1/0/1
3.3.3.3 10.0.0.5 1 30 Full/DR GE1/0/2
<P1>
```

查看SW2的OSPF邻居状态:

```
<SW2>dis ospf peer

OSPF Process 1 with Router ID 3.3.3.3
Neighbor Brief Information

Area: 0.0.0.0
Router ID Address Pri Dead-Time State Interface
2.2.2.2 10.0.0.6 1 37 Full/BDR GE1/0/2
<SW2>
```

查看SW1的LDP邻居状态:

```
<SW1>dis mpls ldp peer
Total number of peers: 1
Peer LDP ID State Role GR MD5 KA Sent/Rcvd
2.2.2.2:0 Operational Passive Off Off 15/15
<SW1>
```

查看P1的LDP邻居状态:

```

<P1>dis mpls ldp peer
Total number of peers: 2
Peer LDP ID          State      Role    GR   MD5  KA Sent/Rcvd
1.1.1.1:0             Operational Active   Off  Off  17/17
3.3.3.3:0             Operational Passive  Off  Off  17/16
<P1>

```

查看SW2的LDP邻居状态:

```

<SW2>dis mpls ldp peer
Total number of peers: 1
Peer LDP ID          State      Role    GR   MD5  KA Sent/Rcvd
2.2.2.2:0            Operational Active   Off  Off  15/16
<SW2>

```

查看SW1的BGP邻居状态:

```

<SW1>dis bgp peer ipv4

BGP local router ID: 1.1.1.1
Local AS number: 100
Total number of peers: 1          Peers in established state: 1

* - Dynamically created peer
Peer      AS  MsgRcvd  MsgSent  OutQ  PrefRcv  Up/Down  State
3.3.3.3   100    12       12       0     2 00:04:26 Established
<SW1>dis bgp peer vpnv4

BGP local router ID: 1.1.1.1
Local AS number: 100
Total number of peers: 1          Peers in established state: 1

* - Dynamically created peer
Peer      AS  MsgRcvd  MsgSent  OutQ  PrefRcv  Up/Down  State
3.3.3.3   100    12       12       0     2 00:04:30 Established
<SW1>

```

查看SW2的BGP邻居状态:

```

<SW2>dis bgp peer ipv4

BGP local router ID: 3.3.3.3
Local AS number: 100
Total number of peers: 1          Peers in established state: 1

* - Dynamically created peer
Peer      AS  MsgRcvd  MsgSent  OutQ  PrefRcv  Up/Down  State
1.1.1.1   100    13       13       0     2 00:04:20 Established
<SW2>dis bgp peer vpnv4

BGP local router ID: 3.3.3.3
Local AS number: 100
Total number of peers: 1          Peers in established state: 1

* - Dynamically created peer
Peer      AS  MsgRcvd  MsgSent  OutQ  PrefRcv  Up/Down  State
1.1.1.1   100    13       13       0     2 00:04:24 Established
<SW2>

```

查看SW1 VPN路由表:

```

<SW1>dis ip routing-table vpn-instance vpn-rt

Destinations : 13          Routes : 13

Destination/Mask  Proto  Pre Cost      NextHop          Interface
0.0.0.0/32        Direct 0 0            127.0.0.1        InLoop0
127.0.0.0/8        Direct 0 0            127.0.0.1        InLoop0
127.0.0.0/32        Direct 0 0            127.0.0.1        InLoop0
127.0.0.1/32        Direct 0 0            127.0.0.1        InLoop0
127.255.255.255/32 Direct 0 0            127.0.0.1        InLoop0
172.16.10.0/24     BGP    255 0           3.3.3.3          GE1/0/2
192.168.10.0/24     Direct 0 0            192.168.10.1     Vlan10
192.168.10.0/32     Direct 0 0            192.168.10.1     Vlan10
192.168.10.1/32     Direct 0 0            127.0.0.1        InLoop0
192.168.10.255/32   Direct 0 0            192.168.10.1     Vlan10
224.0.0.0/4         Direct 0 0            0.0.0.0          NULL0
224.0.0.0/24        Direct 0 0            0.0.0.0          NULL0
255.255.255.255/32 Direct 0 0            127.0.0.1        InLoop0
<SW1>

```



```
<SW1>dis ip routing-table vpn-instance vpn-nrt
Destinations : 13          Routes : 13

Destination/Mask    Proto   Pre Cost       NextHop         Interface
0.0.0.0/32          Direct  0  0             127.0.0.1       InLoop0
127.0.0.0/8          Direct  0  0             127.0.0.1       InLoop0
127.0.0.0/32          Direct  0  0             127.0.0.1       InLoop0
127.0.0.1/32          Direct  0  0             127.0.0.1       InLoop0
127.255.255.255/32    Direct  0  0             127.0.0.1       InLoop0
172.16.20.0/24        BGP     255 0            3.3.3.3         GE1/0/2
192.168.20.0/24        Direct  0  0            192.168.20.1     Vlan20
192.168.20.0/32        Direct  0  0            192.168.20.1     Vlan20
192.168.20.1/32        Direct  0  0            127.0.0.1       InLoop0
192.168.20.255/32      Direct  0  0            192.168.20.1     Vlan20
224.0.0.0/4           Direct  0  0             0.0.0.0         NULL0
224.0.0.0/24          Direct  0  0             0.0.0.0         NULL0
255.255.255.255/32    Direct  0  0            127.0.0.1       InLoop0
<SW1>
```

查看SW2 VPN路由表：

```
<SW2>dis ip routing-table vpn-instance vpn-rt
Destinations : 13          Routes : 13

Destination/Mask    Proto   Pre Cost       NextHop         Interface
0.0.0.0/32          Direct  0  0             127.0.0.1       InLoop0
127.0.0.0/8          Direct  0  0             127.0.0.1       InLoop0
127.0.0.0/32          Direct  0  0             127.0.0.1       InLoop0
127.0.0.1/32          Direct  0  0             127.0.0.1       InLoop0
127.255.255.255/32    Direct  0  0             127.0.0.1       InLoop0
172.16.10.0/24        Direct  0  0            172.16.10.1     Vlan100
172.16.10.0/32        Direct  0  0            172.16.10.1     Vlan100
172.16.10.1/32        Direct  0  0            127.0.0.1       InLoop0
172.16.10.255/32      Direct  0  0            172.16.10.1     Vlan100
192.168.10.0/24        BGP     255 0            1.1.1.1         GE1/0/2
224.0.0.0/4           Direct  0  0             0.0.0.0         NULL0
224.0.0.0/24          Direct  0  0             0.0.0.0         NULL0
255.255.255.255/32    Direct  0  0            127.0.0.1       InLoop0
<SW2>
```

```
<SW2>dis ip routing-table vpn-instance vpn-nrt
Destinations : 13          Routes : 13

Destination/Mask    Proto   Pre Cost       NextHop         Interface
0.0.0.0/32          Direct  0  0             127.0.0.1       InLoop0
127.0.0.0/8          Direct  0  0             127.0.0.1       InLoop0
127.0.0.0/32          Direct  0  0             127.0.0.1       InLoop0
127.0.0.1/32          Direct  0  0             127.0.0.1       InLoop0
127.255.255.255/32    Direct  0  0             127.0.0.1       InLoop0
172.16.20.0/24        Direct  0  0            172.16.20.1     Vlan200
172.16.20.0/32        Direct  0  0            172.16.20.1     Vlan200
172.16.20.1/32        Direct  0  0            127.0.0.1       InLoop0
172.16.20.255/32      Direct  0  0            172.16.20.1     Vlan200
192.168.20.0/24        BGP     255 0            1.1.1.1         GE1/0/2
224.0.0.0/4           Direct  0  0             0.0.0.0         NULL0
224.0.0.0/24          Direct  0  0             0.0.0.0         NULL0
255.255.255.255/32    Direct  0  0            127.0.0.1       InLoop0
<SW2>
```

至此，S5820 MPLS VPN IBGP典型组网配置案例已完成！

配置关键点