SR6600路由器MPLS L3VPN及OSPF Sham-Link功能的配置
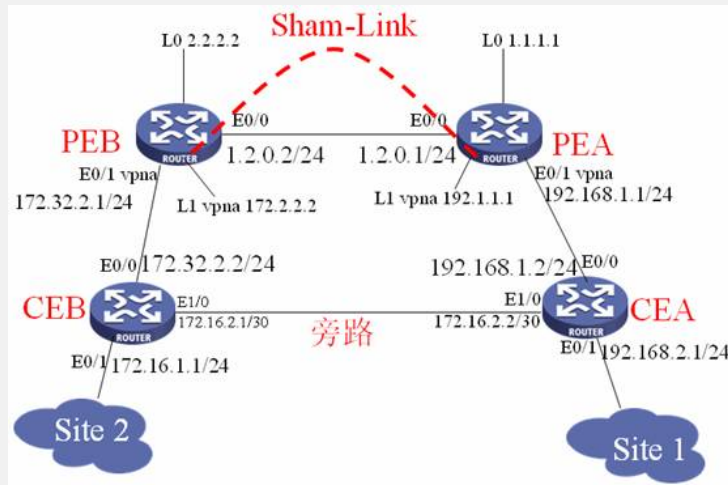
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SR6600路由器

MPLS L3VPN 及 OSPF Sham-Link功能的配置

关键词：SR66;MPLS;BGP;VPN;OSPF多实例;Sham-Link

一、组网需求：

2台PE各接着一个vpna的站点，PEA连接vpna站点1出口CEA，PEB连接vpna站点2出口CEB，PEA与CEA、PEB与CEB通过OSPF多实例学习CEA下挂站点路由，CEA和CEB有一条旁路，要求PEA和PEB的OSPF多实例建立伪连接

设备清单：SR6600路由器4台

二、组网图：

三、配置步骤：

设备和版本：SR6600

CEA配置

#
interface Ethernet0/0
 port link-mode route
 ip address 192.168.1.2 255.255.255.0
#
interface Ethernet0/1
 port link-mode route
 ip address 192.168.2.1 255.255.255.0
#
interface Ethernet1/0
 port link-mode route
 ip address 172.16.2.2 255.255.255.252
#
ospf 1
 area 0.0.0.0
  network 192.168.1.0 0.0.0.255
  network 192.168.2.0 0.0.0.255
  network 172.16.2.0 0.0.0.3
#

CEB配置

```
#
interface Ethernet0/0
 port link-mode route
 ip address 172.32.2.2 255.255.255.0
#
interface Ethernet0/1
 port link-mode route
 ip address 172.16.1.1 255.255.255.0
#
interface Ethernet1/0
 port link-mode route
 ip address 172.16.2.1 255.255.255.252
#
ospf 1
 area 0.0.0.0
  network 172.32.2.0 0.0.0.255
  network 172.16.1.0 0.0.0.255
  network 172.16.2.0 0.0.0.3
#
```

PEA配置

```
#
 router id 1.1.1.1
#
//配置vpn实例vpna
ip vpn-instance vpna
 route-distinguisher 1:1
 vpn-target 100:1 export-extcommunity
 vpn-target 100:1 import-extcommunity
#
mpls lsr-id 1.1.1.1
#
mpls
#
mpls ldp
#
interface Ethernet0/0
 port link-mode route
 ip address 1.2.0.1 255.255.255.0
 //接口使能mpls和ldp
 mpls
 mpls ldp
#
interface Ethernet0/1
 port link-mode route
 //连接vpna站点1出口CEA的接口
 ip binding vpn-instance vpna
 ip address 192.168.1.1 255.255.255.0
#
interface LoopBack0
 ip address 1.1.1.1 255.255.255.255
#
//用于建立伪连接的Loopback口
interface LoopBack1
 ip binding vpn-instance vpna
 ip address 192.1.1.1 255.255.255.255
#
bgp 100
 undo synchronization
 peer 2.2.2.2 as-number 100
 peer 2.2.2.2 connect-interface LoopBack0
#
 //使能vpnv4路由传送
 ipv4-family vpnv4
  peer 2.2.2.2 enable
 #
 //引入vpna的路由
 ipv4-family vpn-instance vpna
  import-route direct
#
ospf 1
 area 0.0.0.0
  network 1.2.0.0 0.0.0.255
  network 1.1.1.1 0.0.0.0
#
//ospf进程100学习vpna路由
ospf 100 router-id 192.1.1.1 vpn-instance vpna
 area 0.0.0.0
  network 192.168.1.0 0.0.0.255
  //建立伪连接的源和目的
  sham-link 192.1.1.1 172.2.2.2
#
```

PEB配置

```
#
 router id 2.2.2.2
#
//配置vpn实例vpna
ip vpn-instance vpna
 route-distinguisher 2:1
 vpn-target 100:1 export-extcommunity
 vpn-target 100:1 import-extcommunity
#
mpls lsr-id 2.2.2.2
#
mpls
#
mpls ldp
#
interface Ethernet0/0
 port link-mode route
 ip address 1.2.0.2 255.255.255.0
 mpls
 mpls ldp
#
interface Ethernet0/1
 port link-mode route
//连接vpna站点1出口CEB的接口
 ip binding vpn-instance vpna
 ip address 192.168.2.1 255.255.255.0
#
interface LoopBack0
 ip address 2.2.2.2 255.255.255.255
#
interface LoopBack1
 //用于建立伪连接的loopback口
 ip binding vpn-instance vpna
 ip address 172.2.2.2 255.255.255.255
#
bgp 100
 undo synchronization
 peer 1.1.1.1 as-number 100
 peer 1.1.1.1 connect-interface LoopBack0
 #
 ipv4-family vpnv4
  peer 1.1.1.1 enable
 #
 ipv4-family vpn-instance vpna
  import-route direct
#
ospf 1
 area 0.0.0.0
  network 2.2.2.2 0.0.0.0
  network 1.2.0.0 0.0.0.255
#
ospf 100 router-id 172.2.2.2 vpn-instance vpna
 domain-id 0.0.0.100
 area 0.0.0.0
  network 192.168.2.0 0.0.0.255
  //建立伪连接的源和目的
  sham-link 172.2.2.2 192.1.1.1
#
```

四、配置关键点：

1) 在vpna站点间存在旁路时需要建立伪连接；

2) PEA和PEB需要建立vpna的loopback口用于建立伪连接；

3) 伪连接要指定源和目的。