

MSR路由器

IPv6隧道技术之6PE隧道技术配置

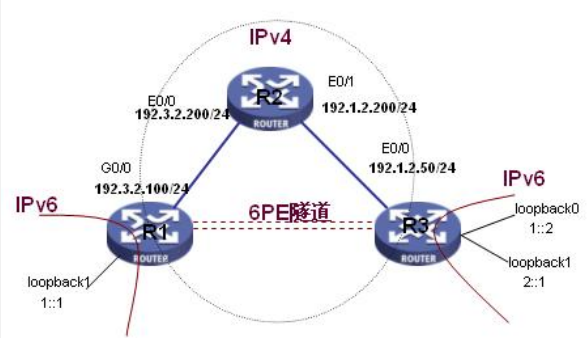
关键字: MSR;IPv6;MPLS;6PE;隧道技术

一、组网需求:

MPLS/VPN技术已经广泛使用, 6PE技术通过在PE上对IPv6数据进行MPLS的封装, 将IPv6数据打上标签再传给P设备, P路由器通过标签进行转发, 到对端PE路由器后再将标签弹出, 取出IPv6数据, 实现IPv6跨MPLS/VPN网络的互联。对于PE路由器来说, 必须是双栈路由器, 支持IPv6。

设备清单: MSR路由器3台

二、组网图:



三、配置步骤:

适用设备和版本: MSR、Version 5.20, Beta 1105后所有版本。

R1 配置
<pre># router id 1.1.1.1 # ipv6 # mpls lsr-id 1.1.1.1 # mpls # mpls ldp # interface LoopBack0 ipv6 address 1::1/128 ip address 1.1.1.1 255.255.255.255 # interface GigabitEthernet0/0 port link-mode route ip address 192.3.2.100 255.255.255.0 mpls mpls ldp # bgp 100 undo synchronization group in internal peer 3.3.3.3 group in peer 3.3.3.3 connect-interface LoopBack0 # ipv6-family import-route direct undo synchronization peer 3.3.3.3 enable peer 3.3.3.3 label-route-capability //使能IPv6标签路由的交换能力 # ospf 1 area 0.0.0.0 network 192.3.2.0 0.0.0.255 network 1.1.1.1 0.0.0.0 #</pre>
R2 配置

```
#
router id 2.2.2.2
#
mpls lsr-id 2.2.2.2
#
mpls
#
mpls ldp
#
interface Ethernet0/0
port link-mode route
ip address 192.3.2.200 255.255.255.0
mpls
mpls ldp
#
interface Ethernet0/1
port link-mode route
ip address 192.1.2.200 255.255.255.0
mpls
mpls ldp
#
ospf 1
area 0.0.0.0
network 2.2.2.2
network 192.3.2.0 0.0.0.255
network 192.1.2.0 0.0.0.255
#
```

R3 配置

```
#
router id 3.3.3.3
#
ipv6
#
mpls lsr-id 3.3.3.3
#
mpls
#
mpls ldp
#
interface Ethernet0/0
port link-mode route
ip address 192.1.2.50 255.255.255.0
mpls
mpls ldp
#
interface LoopBack0
ipv6 address 1::2/128
ip address 3.3.3.3 255.255.255.255
#
interface LoopBack1
ipv6 address 2::1/128
#
bgp 100
undo synchronization
group in internal
peer 1.1.1.1 group in
peer 1.1.1.1 connect-interface LoopBack0
#
ipv6-family
import-route direct
undo synchronization
peer 1.1.1.1 enable
peer 1.1.1.1 label-route-capability //使能IPv6标签路由的交换能力
#
ospf 1
area 0.0.0.0
network 192.1.2.0 0.0.0.255
network 3.3.3.3 0.0.0.0
#
```

四、配置关键点：

- 1) 首先要保证IPv4网络连通和MPLS LSP建立
- 2) 在BGP的IPv6视图下使能IPv6标签路由的交换能力