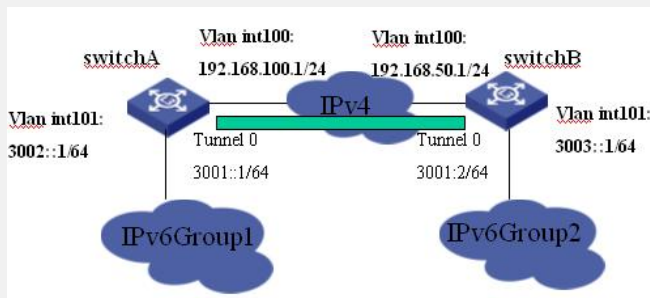


H3C 7500E R63xx系列版本IPv6手动隧道的典型配置

一、组网需求：

如下图所示，两个IPv6网络分别通过Switch A和Switch B与IPv4网络连接，要求在Switch A和Switch B之间建立IPv6手动隧道，使两个IPv6网络可以互通。

二、组网图：



三、配置步骤：

(1) SwitchA的配置

使能IPv6转发功能。

```
<SwitchA> system-view
```

```
[SwitchA] ipv6
```

配置接口Vlan-interface100的地址。

```
[SwitchA] interface vlan-interface 100
```

```
[SwitchA-Vlan-interface100] ip address 192.168.100.1 255.255.255.0
```

```
[SwitchA-Vlan-interface100] quit
```

配置接口Vlan-interface101的IPv6地址。

```
[SwitchA] interface vlan-interface 101
```

```
[SwitchA-Vlan-interface101] ipv6 address 3002::1 64
```

```
[SwitchA-Vlan-interface101] quit
```

配置业务环回组。需要注意的是，将端口加入到业务环回组时，需要在端口上关闭STP功能。

```
[SwitchA] service-loopback group 1 type tunnel
```

```
[SwitchA] interface GigabitEthernet 2/0/1
```

```
[SwitchA-GigabitEthernet2/0/1] stp disable
```

```
[SwitchA-GigabitEthernet2/0/1] port service-loopback group 1
```

```
[SwitchA-GigabitEthernet2/0/1] quit
```

配置手动隧道。

```
[SwitchA] interface tunnel 2/0/0
```

```
[SwitchA-Tunnel2/0/0] ipv6 address 3001::1/64
```

```
[SwitchA-Tunnel2/0/0] source vlan-interface 100
```

```
[SwitchA-Tunnel2/0/0] destination 192.168.50.1
```

```
[SwitchA-Tunnel2/0/0] tunnel-protocol ipv6-ipv4
```

在Tunnel接口视图下配置隧道引用业务环回组1。

```
[SwitchA-Tunnel2/0/0] service-loopback-group 1
```

```
[SwitchA-Tunnel2/0/0] quit
```

配置从Switch A经过Tunnel2/0/0接口到Group 2的静态路由。

```
[SwitchA] ipv6 route-static 3003:: 64 tunnel 2/0/0
```

(2) SwitchB的配置

使能IPv6转发功能。

```
<SwitchB> system-view
```

```
[SwitchB] ipv6
```

配置接口Vlan-interface100的地址。

```
[SwitchB] interface vlan-interface 100
```

```
[SwitchB-Vlan-interface100] ip address 192.168.50.1 255.255.255.0
```

```
[SwitchB-Vlan-interface100] quit
```

配置接口Vlan-interface101的IPv6地址。

```
[SwitchB] interface vlan-interface 101
```

```
[SwitchB-Vlan-interface101] ipv6 address 3003::1 64
```

```
[SwitchB-Vlan-interface101] quit
```

配置业务环回组。需要注意的是，将端口加入到业务环回组时，需要在端口上关闭STP功能。

```
[SwitchB] service-loopback group 1 type tunnel
[SwitchB] interface GigabitEthernet 2/0/1
[SwitchB-GigabitEthernet2/0/1] stp disable
[SwitchB-GigabitEthernet2/0/1] port service-loopback group 1
[SwitchB-GigabitEthernet2/0/1] quit
```

配置手动隧道。

```
[SwitchB] interface tunnel 2/0/0
[SwitchB-Tunnel2/0/0] ipv6 address 3001::2/64
[SwitchB-Tunnel2/0/0] source vlan-interface 100
[SwitchB-Tunnel2/0/0] destination 192.168.100.1
[SwitchB-Tunnel2/0/0] tunnel-protocol ipv6-ipv4
```

在Tunnel接口视图下配置隧道引用业务环回组1。

```
[SwitchB-Tunnel2/0/0] service-loopback-group 1
[SwitchB-Tunnel2/0/0] quit
```

配置从Switch B经过Tunnel2/0/0接口到Group 1的静态路由。

```
[SwitchB] ipv6 route-static 3002:: 64 tunnel 2/0/0
```

(3) 验证配置结果

完成以上配置之后，分别查看Switch A和Switch B的Tunnel接口状态如下：

```
[SwitchA] display ipv6 interface tunnel 2/0/0 verbose
```

Tunnel2/0/0 current state :UP

Line protocol current state :UP

IPv6 is enabled, link-local address is FE80::C0A8:6401

Global unicast address(es):

3000::1, subnet is 3000::/64

Joined group address(es):

FF02::1:FFA8:6401

FF02::1:FF00:1

FF02::1:FF00:0

FF02::2

FF02::1

MTU is 1480 bytes

ND reachable time is 30000 milliseconds

ND retransmit interval is 1000 milliseconds

Hosts use stateless autoconfig for addresses

IPv6 Packet statistics:

InReceives: 55

..... (略)

```
[SwitchB] display ipv6 interface tunnel 2/0/0 verbose
```

Tunnel2/0/0 current state :UP

Line protocol current state :UP

IPv6 is enabled, link-local address is FE80::C0A8:3201

Global unicast address(es):

3000::1, subnet is 3000::/64

Joined group address(es):

FF02::1:FFA8:3201

FF02::1:FF00:1

FF02::1:FF00:0

FF02::2

FF02::1

MTU is 1480 bytes

ND reachable time is 30000 milliseconds

ND retransmit interval is 1000 milliseconds

Hosts use stateless autoconfig for addresses

IPv6 Packet statistics:

InReceives: 55

..... (略)

从Switch A上可以Ping通对端的Vlan-int101接口的IPv6地址：

```
[SwitchA] ping ipv6 3003::1
```

PING 3003::1 : 56 data bytes, press CTRL_C to break

Reply from 3003::1

bytes=56 Sequence=1 hop limit=64 time = 1 ms

Reply from 3003::1

```
bytes=56 Sequence=2 hop limit=64 time = 1 ms
Reply from 3003::1
bytes=56 Sequence=3 hop limit=64 time = 1 ms
Reply from 3003::1
bytes=56 Sequence=4 hop limit=64 time = 1 ms
Reply from 3003::1
bytes=56 Sequence=5 hop limit=64 time = 1 ms
--- 3003::1 ping statistics ---
5 packet(s) transmitted
5 packet(s) received
0.00% packet loss
round-trip min/avg/max = 1/1/1 ms
```

四、配置关键点：

- (1) 注意使能IPv6转发功能。
- (2) 需要配置一个业务环回组，并且端口加入业务环回组时，需要在端口上关闭STP功能。