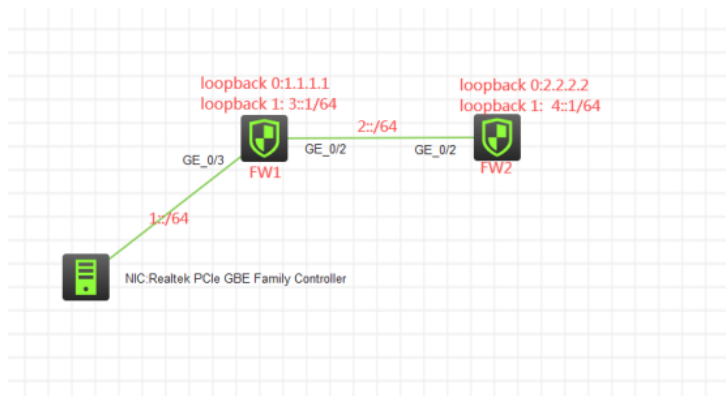


## 知 F1060 IPV6之静态路由典型组网配置案例

设备部署方式 H3C模拟器 韦家宁 2020-03-07 发表

### 组网及说明



#### 组网说明:

本案例采用H3C HCL模拟器的F1060防火墙来模拟IPv6之静态路由的典型组网配置，全网均采用IPv6子网，要求通过静态路由技术实现全网互通。

### 配置步骤

- 1、按照网络拓扑图正确配置IPv6地址。
- 2、全网运行静态路由协议

### 配置关键点

FW1 :

<FW1>sys

System View: return to User View with Ctrl+Z.

```
[FW1]acl ipv6 basic 2001
```

```
[FW1-acl-ipv6-basic-2001]rule 0 permit source any
```

```
[FW1-acl-ipv6-basic-2001]quit
```

```
[FW1]
```

```
[FW1]zone-pair security source trust destination untrust
```

```
[FW1-zone-pair-security-Trust-Untrust]packet-filter ipv6 2001
```

```
[FW1-zone-pair-security-Trust-Untrust]quit
```

```
[FW1]
```

```
[FW1]zone-pair security source untrust destination trust
```

```
[FW1-zone-pair-security-Untrust-Trust]packet-filter ipv6 2001
```

```
[FW1-zone-pair-security-Untrust-Trust]quit
```

```
[FW1]
```

```
[FW1]zone-pair security source trust destination local
```

```
[FW1-zone-pair-security-Trust-Local]packet-filter ipv6 2001
```

```
[FW1-zone-pair-security-Trust-Local]quit
```

```
[FW1]
```

```
[FW1]zone-pair security source local destination trust
```

```
[FW1-zone-pair-security-Local-Trust]packet-filter ipv6 2001
```

```
[FW1-zone-pair-security-Local-Trust]quit
```

```
[FW1]
```

```
[FW1]zone-pair security source untrust destination local
```

```
[FW1-zone-pair-security-Untrust-Local]packet-filter ipv6 2001
```

```
[FW1-zone-pair-security-Untrust-Local]quit
```

```
[FW1]
```

```
[FW1]zone-pair security source local destination untrust
```

```
[FW1-zone-pair-security-Local-Untrust]packet-filter ipv6 2001
```

```
[FW1-zone-pair-security-Local-Untrust]quit
```

```
[FW1]
```

```
[FW1]zone-pair security source trust destination trust
```

```
[FW1-zone-pair-security-Trust-Trust]packet-filter ipv6 2001
```

```
[FW1-zone-pair-security-Trust-Trust]quit
```

```
[FW1]
```

```
[FW1]zone-pair security source untrust destination untrust
[FW1-zone-pair-security-Untrust-Untrust]packet-filter ipv6 2001
[FW1-zone-pair-security-Untrust-Untrust]quit
[FW1]int loopback 0
[FW1-LoopBack0]ip address 1.1.1.1 32
[FW1-LoopBack0]quit
[FW1]int loopback 1
[FW1-LoopBack1]ipv6 address 3::1 63
[FW1-LoopBack1]quit
[FW1]int gi 1/0/3
[FW1-GigabitEthernet1/0/3]ipv6 address 1::1 64
[FW1-GigabitEthernet1/0/3]quit
[FW1]int gi 1/0/2
[FW1-GigabitEthernet1/0/2]des <connect to FW2>
[FW1-GigabitEthernet1/0/2]ipv6 address 2::1 64
[FW1-GigabitEthernet1/0/2]quit
[FW1]security-zone name Trust
[FW1-security-zone-Trust]import interface GigabitEthernet 1/0/3
[FW1-security-zone-Trust]quit
[FW1]security-zone name Untrust
[FW1-security-zone-Untrust]import interface LoopBack 0
[FW1-security-zone-Untrust]import interface LoopBack 1
[FW1-security-zone-Untrust]import interface GigabitEthernet 1/0/2
[FW1-security-zone-Untrust]quit
[FW1]ipv6 route-static 4:: 64 2::2
```

FW2:

<H3C>sys

System View: return to User View with Ctrl+Z.

```
[H3C]sysname FW2
```

```
[FW2]acl ipv6 basic 2001
```

```
[FW2-acl-ipv6-basic-2001]rule 0 permit source any
```

```
[FW2-acl-ipv6-basic-2001]quit
```

```
[FW2]
```

```
[FW2]zone-pair security source trust destination untrust
```

```
[FW2-zone-pair-security-Trust-Untrust]packet-filter ipv6 2001
```

```
[FW2-zone-pair-security-Trust-Untrust]quit
```

```
[FW2]
```

```
[FW2]zone-pair security source untrust destination trust
```

```
[FW2-zone-pair-security-Untrust-Trust]packet-filter ipv6 2001
```

```
[FW2-zone-pair-security-Untrust-Trust]quit
```

```
[FW2]
```

```
[FW2]zone-pair security source trust destination local
```

```
[FW2-zone-pair-security-Trust-Local]packet-filter ipv6 2001
```

```
[FW2-zone-pair-security-Trust-Local]quit
```

```
[FW2]
```

```
[FW2]zone-pair security source local destination trust
```

```
[FW2-zone-pair-security-Local-Trust]packet-filter ipv6 2001
```

```
[FW2-zone-pair-security-Local-Trust]quit
```

```
[FW2]
```

```
[FW2]zone-pair security source untrust destination local
```

```
[FW2-zone-pair-security-Untrust-Local]packet-filter ipv6 2001
```

```
[FW2-zone-pair-security-Untrust-Local]quit
```

```
[FW2]
```

```
[FW2]zone-pair security source local destination untrust
```

```
[FW2-zone-pair-security-Local-Untrust]packet-filter ipv6 2001
```

```
[FW2-zone-pair-security-Local-Untrust]quit
```

```
[FW2]
```

```
[FW2]zone-pair security source trust destination trust
```

```
[FW2-zone-pair-security-Trust-Trust]packet-filter ipv6 2001
```

```
[FW2-zone-pair-security-Trust-Trust]quit
```

```
[FW2]
```

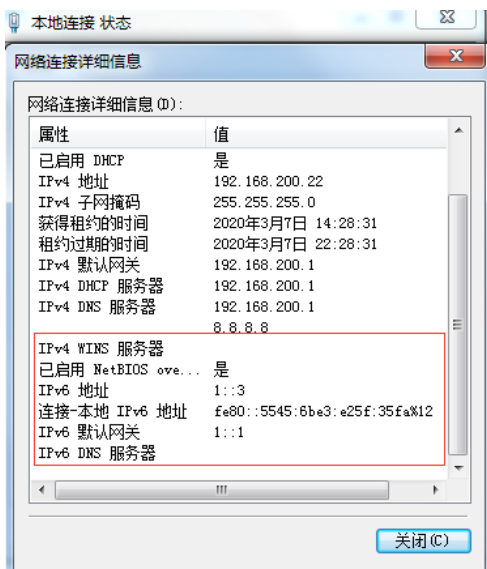
```
[FW2]zone-pair security source untrust destination untrust
```

```

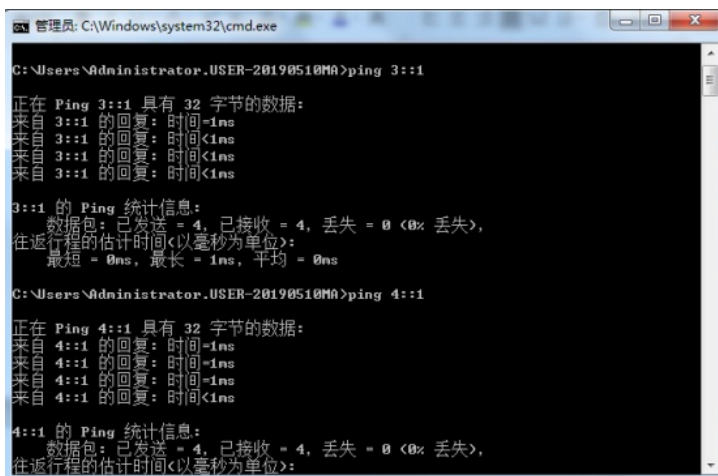
[FW2-zone-pair-security-Untrust-Untrust]packet-filter ipv6 2001
[FW2-zone-pair-security-Untrust-Untrust]quit
[FW2]int loopback 0
[FW2-LoopBack0]ip address 2.2.2.2 32
[FW2-LoopBack0]quit
[FW2]int loopback 1
[FW2-LoopBack1]ipv6 address 4::1 64
[FW2-LoopBack1]quit
[FW2]int gi 1/0/2
[FW2-GigabitEthernet1/0/2]des <connect to FW1>
[FW2-GigabitEthernet1/0/2]ipv6 address 2::2 64
[FW2-GigabitEthernet1/0/2]quit
[FW2]security-zone name Untrust
[FW2-security-zone-Untrust]import interface LoopBack 0
[FW2-security-zone-Untrust]import interface LoopBack 1
[FW2-security-zone-Untrust]import interface GigabitEthernet 1/0/2
[FW2-security-zone-Untrust]quit
[FW2]ipv6 route-static 3:: 64 2::1
[FW2]ipv6 route-static 1:: 64 2::1

```

PC填写IPv6地址:



PC可以PING通FW1、FW2的loopback 1:



FW1可以PING通PC及FW2的loopback1:

```
[FW1]ping ipv6 1::3
Ping6(56 data bytes) 1::1 --> 1::3, press CTRL_C to break
56 bytes from 1::3, icmp_seq=0 hlim=128 time=2.000 ms
56 bytes from 1::3, icmp_seq=1 hlim=128 time=0.000 ms
56 bytes from 1::3, icmp_seq=2 hlim=128 time=0.000 ms
56 bytes from 1::3, icmp_seq=3 hlim=128 time=0.000 ms
56 bytes from 1::3, icmp_seq=4 hlim=128 time=0.000 ms

--- Ping6 statistics for 1::3 ---
5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss
round-trip min/avg/max/std-dev = 0.000/0.400/2.000/0.800 ms
[FW1]Mar 7 15:19:36:138 2020 FW1 PING/6/PING_STATISTICS: -Context=1; Ping6 statistics fo
r 1::3: 5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss, round-trip min/av
g/max/std-dev = 0.000/0.400/2.000/0.800 ms.
ping ipv6 4::1
Ping6(56 data bytes) 2::1 --> 4::1, press CTRL_C to break
56 bytes from 4::1, icmp_seq=0 hlim=64 time=2.000 ms
56 bytes from 4::1, icmp_seq=1 hlim=64 time=1.000 ms
56 bytes from 4::1, icmp_seq=2 hlim=64 time=1.000 ms
56 bytes from 4::1, icmp_seq=3 hlim=64 time=1.000 ms
56 bytes from 4::1, icmp_seq=4 hlim=64 time=1.000 ms

--- Ping6 statistics for 4::1 ---
```

FW2可以PING通PC及FW1的loopback1:

```
[FW2]ping ipv6 1::3
Ping6(56 data bytes) 2::2 --> 1::3, press CTRL_C to break
56 bytes from 1::3, icmp_seq=0 hlim=127 time=3.000 ms
56 bytes from 1::3, icmp_seq=1 hlim=127 time=1.000 ms
56 bytes from 1::3, icmp_seq=2 hlim=127 time=1.000 ms
56 bytes from 1::3, icmp_seq=3 hlim=127 time=2.000 ms
56 bytes from 1::3, icmp_seq=4 hlim=127 time=2.000 ms

--- Ping6 statistics for 1::3 ---
5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss
round-trip min/avg/max/std-dev = 1.000/1.800/3.000/0.748 ms
[FW2]Mar 7 15:21:01:127 2020 FW2 PING/6/PING_STATISTICS: -Context=1; Ping6 statistics fo
r 1::3: 5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss, round-trip min/av
g/max/std-dev = 1.000/1.800/3.000/0.748 ms.

[FW2]ping ipv6 3::1
Ping6(56 data bytes) 2::2 --> 3::1, press CTRL_C to break
56 bytes from 3::1, icmp_seq=0 hlim=64 time=1.000 ms
56 bytes from 3::1, icmp_seq=1 hlim=64 time=1.000 ms
56 bytes from 3::1, icmp_seq=2 hlim=64 time=1.000 ms
56 bytes from 3::1, icmp_seq=3 hlim=64 time=0.000 ms
56 bytes from 3::1, icmp_seq=4 hlim=64 time=1.000 ms

--- Ping6 statistics for 3::1 ---
```

分别查看FW1、FW2的IPV6路由表:

[FW1]dis ipv6 routing-table

Destinations : 10    Routes : 10

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

```
Destination: 1::/64                    Protocol : Direct
NextHop    : ::                         Preference: 0
Interface  : GE1/0/3                    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  : GE1/0/2                    Cost     : 0
```

```
Destination: 2::1/128                  Protocol : Direct
NextHop    : ::1                        Preference: 0
Interface  : InLoop0                    Cost     : 0
```

```
Destination: 3::/63                    Protocol : Direct
NextHop    : ::                         Preference: 0
Interface  : Loop1                      Cost     : 0
```

```
Destination: 3::1/128                  Protocol : Direct
NextHop    : ::1                        Preference: 0
Interface  : InLoop0                    Cost     : 0
```

```
Destination: 4::/64                    Protocol : Static
NextHop    : 2::2                       Preference: 60
Interface  : GE1/0/2                    Cost     : 0
```

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

Destination: FF00::/8                   Protocol : Direct  
NextHop : ::                            Preference: 0  
Interface : NULL0                      Cost : 0  
[FW1]

[FW2]dis ipv6 routing-table

Destinations : 9    Routes : 9

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

Destination: 1::/64                    Protocol : Static  
NextHop : 2::1                         Preference: 60  
Interface : GE1/0/2                    Cost : 0

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

Destination: 2::2/128                   Protocol : Direct  
NextHop : ::1                          Preference: 0  
Interface : InLoop0                    Cost : 0

Destination: 3::/64                    Protocol : Static  
NextHop : 2::1                         Preference: 60  
Interface : GE1/0/2                    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: FE80::/10                   Protocol : Direct  
NextHop : ::                            Preference: 0  
Interface : InLoop0                    Cost : 0

Destination: FF00::/8                   Protocol : Direct  
NextHop : ::                            Preference: 0  
Interface : NULL0                      Cost : 0  
[FW2]

至此，F1060 IPV6之静态路由由典型组网配置案例已完成！