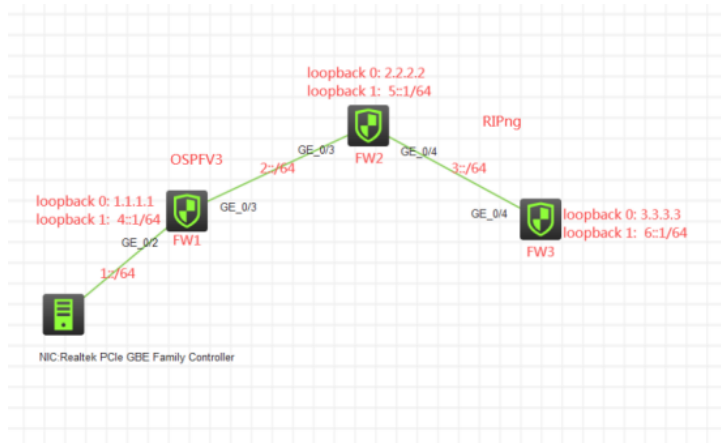


组网及说明



组网说明:

本案例采用H3C HCL模拟器的F1060来模拟IPV6 ospfv3与RIPng路由重分布的典型组网配置。FW1与FW2运行OSPFV3路由协议，FW2与FW3运行RIPng路由协议，为了实现物理机能够PING通FW3，因此需要在FW2配置OSPFV3与RIPng路由重分布。

配置步骤

- 1、按照网络拓扑图正确配置IP地址
- 2、FW1与FW2运行OSPFV3路由协议
- 3、FW2与FW3运行RIPng路由协议
- 4、FW2配置OSPFV3与RIPng路由重分布

配置关键点

FW1:

sys

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

```
[H3C]sysname FW1
```

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

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

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

```
[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 gi 1/0/2
[FW1-GigabitEthernet1/0/2]ipv6 address 1::1 64
[FW1-GigabitEthernet1/0/2]quit
[FW1]int gi 1/0/3
[FW1-GigabitEthernet1/0/3]des
[FW1-GigabitEthernet1/0/3]ipv6 address 2::1 64
[FW1-GigabitEthernet1/0/3]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 4::1 64
[FW1-LoopBack1]quit
[FW1]security-zone name Trust
[FW1-security-zone-Trust]import interface GigabitEthernet 1/0/2
[FW1-security-zone-Trust]quit
[FW1]security-zone name Untrust
[FW1-security-zone-Untrust]import interface GigabitEthernet 1/0/3
[FW1-security-zone-Untrust]import interface LoopBack 0
[FW1-security-zone-Untrust]import interface LoopBack 1
[FW1-security-zone-Untrust]quit
```

FW1 OSPFV3配置关键点:

```
[FW1]ospfv3 1
[FW1-ospfv3-1]import-route direct
[FW1-ospfv3-1]router-id 1.1.1.1
[FW1-ospfv3-1]quit
[FW1]int loopback 1
[FW1-LoopBack1]ospfv3 1 area 0
[FW1-LoopBack1]quit
[FW1]int gi 1/0/2
[FW1-GigabitEthernet1/0/2]ospfv3 1 area 0
[FW1-GigabitEthernet1/0/2]quit
[FW1]int gi 1/0/3
[FW1-GigabitEthernet1/0/3]ospfv3 1 area 0
[FW1-GigabitEthernet1/0/3]quit
```

FW2:

```
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]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 gi 1/0/3
[FW2-GigabitEthernet1/0/3]des
[FW2-GigabitEthernet1/0/3]ipv6 address 2::2 64
[FW2-GigabitEthernet1/0/3]quit
[FW2]int gi 1/0/4
[FW2-GigabitEthernet1/0/4]des
[FW2-GigabitEthernet1/0/4]ipv6 address 3::2 64
[FW2-GigabitEthernet1/0/4]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 5::1 64
[FW2-LoopBack1]quit
[FW2]security-zone name Trust
[FW2-security-zone-Trust]import interface GigabitEthernet 1/0/3
[FW2-security-zone-Trust]quit
[FW2]security-zone name Untrust
[FW2-security-zone-Untrust]import interface GigabitEthernet 1/0/4
[FW2-security-zone-Untrust]import interface LoopBack 0
[FW2-security-zone-Untrust]import interface LoopBack 1
[FW2-security-zone-Untrust]quit

```

FW2 OSPFV3与RIPNG重分布配置关键点：

```

[FW2]ospfv3 1
[FW2-ospfv3-1]router-id 2.2.2.2
[FW2-ospfv3-1]import-route direct
[FW2-ospfv3-1]import-route ripng
[FW2-ospfv3-1]quit
[FW2]ripng 1
[FW2-ripng-1]import-route direct
[FW2-ripng-1]import-route ospfv3 1
[FW2-ripng-1]quit
[FW2]int loopback 1
[FW2-LoopBack1]ospfv3 1 area 0
[FW2-LoopBack1]quit
[FW2]int gi 1/0/4
[FW2-GigabitEthernet1/0/4]ripng 1 enable
[FW2-GigabitEthernet1/0/4]quit
[FW2]int gi 1/0/3
[FW2-GigabitEthernet1/0/3]ospfv3 1 area 0
[FW2-GigabitEthernet1/0/3]quit

```

```

FW3 :
sys
System View: return to User View with Ctrl+Z.
[H3C]sysname FW3
[FW3]acl ipv6 basic 2001
[FW3-acl-ipv6-basic-2001]rule 0 permit source any
[FW3-acl-ipv6-basic-2001]quit
[FW3]zone-pair security source trust destination untrust
[FW3-zone-pair-security-Trust-Untrust]packet-filter ipv6 2001
[FW3-zone-pair-security-Trust-Untrust]quit
[FW3]
[FW3]zone-pair security source untrust destination trust
[FW3-zone-pair-security-Untrust-Trust]packet-filter ipv6 2001
[FW3-zone-pair-security-Untrust-Trust]quit
[FW3]
[FW3]zone-pair security source trust destination local
[FW3-zone-pair-security-Trust-Local]packet-filter ipv6 2001
[FW3-zone-pair-security-Trust-Local]quit
[FW3]
[FW3]zone-pair security source local destination trust
[FW3-zone-pair-security-Local-Trust]packet-filter ipv6 2001
[FW3-zone-pair-security-Local-Trust]quit
[FW3]
[FW3]zone-pair security source untrust destination local
[FW3-zone-pair-security-Untrust-Local]packet-filter ipv6 2001
[FW3-zone-pair-security-Untrust-Local]quit
[FW3]
[FW3]zone-pair security source local destination untrust
[FW3-zone-pair-security-Local-Untrust]packet-filter ipv6 2001
[FW3-zone-pair-security-Local-Untrust]quit
[FW3]
[FW3]zone-pair security source trust destination trust
[FW3-zone-pair-security-Trust-Trust]packet-filter ipv6 2001
[FW3-zone-pair-security-Trust-Trust]quit
[FW3]
[FW3]zone-pair security source untrust destination untrust
[FW3-zone-pair-security-Untrust-Untrust]packet-filter ipv6 2001
[FW3-zone-pair-security-Untrust-Untrust]quit
[FW3]int loopback 0
[FW3-LoopBack0]ip address 3.3.3.3 32
[FW3-LoopBack0]quit
[FW3]int loopback 1
[FW3-LoopBack1]ipv6 address 6::1 64
[FW3-LoopBack1]quit
[FW3]int gi 1/0/4
[FW3-GigabitEthernet1/0/4]des
[FW3-GigabitEthernet1/0/4]ipv6 address 3::1 64
[FW3-GigabitEthernet1/0/4]quit
[FW3]security-zone name Untrust
[FW3-security-zone-Untrust]import interface GigabitEthernet 1/0/4
[FW3-security-zone-Untrust]import interface LoopBack 0
[FW3-security-zone-Untrust]import interface LoopBack 1
[FW3-security-zone-Untrust]quit

```

FW3 RIPNG关键配置点:

```

[FW3]ripng 1
[FW3-ripng-1]import-route direct
[FW3-ripng-1]quit
[FW3]int loopback 1
[FW3-LoopBack1]ripng 1 enable
[FW3-LoopBack1]quit
[FW3]int gi 1/0/4

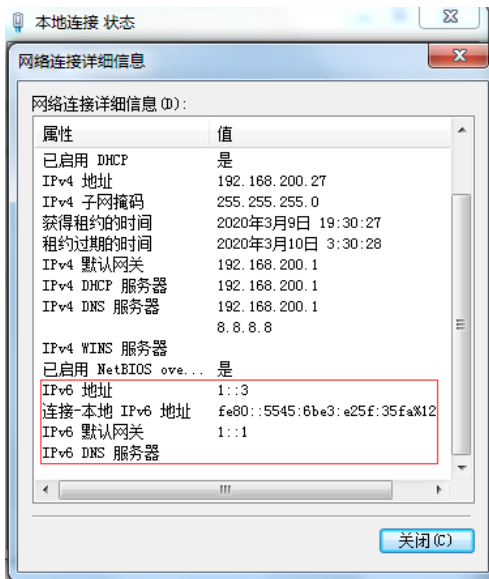
```

[FW3-GigabitEthernet1/0/4]ripng 1 enable

[FW3-GigabitEthernet1/0/4]quit

测试:

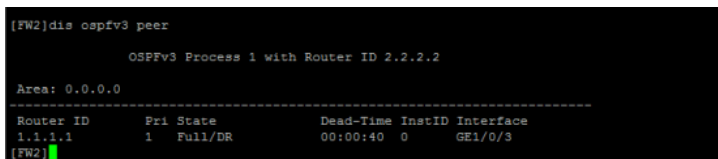
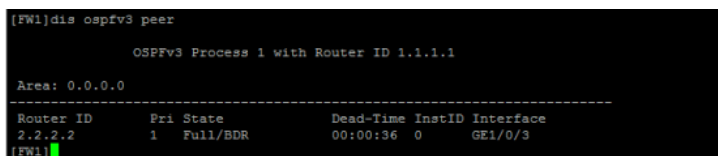
物理机填写IPV6地址:



物理机能PING通FW3的loopback1:



分别查看FW1、FW2的OSPFV3邻居信息:



分别查看FW1、FW2、FW3的IPV6路由表:

[FW1]dis ipv6 routing-table

Destinations : 13 Routes : 13

Destination: ::1/128 Protocol : Direct

NextHop : ::1 Preference: 0

```

Interface : InLoop0          Cost : 0

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

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

Destination: 3::/64          Protocol : O_ASE2
NextHop : FE80::3453:5DFF:FEAA:208 Preference: 150
Interface : GE1/0/3         Cost : 1

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: 5::/64          Protocol : O_ASE2
NextHop : FE80::3453:5DFF:FEAA:208 Preference: 150
Interface : GE1/0/3         Cost : 1

Destination: 5::1/128        Protocol : O_INTRA
NextHop : FE80::3453:5DFF:FEAA:208 Preference: 10
Interface : GE1/0/3         Cost : 1

Destination: 6::/64          Protocol : O_ASE2
NextHop : FE80::3453:5DFF:FEAA:208 Preference: 150
Interface : GE1/0/3         Cost : 1

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 : 13 Routes : 13

```

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

Destination: 1::/64          Protocol : O_INTRA
NextHop : FE80::3453:50FF:FE8B:108 Preference: 10
Interface : GE1/0/3         Cost : 2

Destination: 2::/64          Protocol : Direct

```

```

NextHop  : ::                Preference: 0
Interface : GE1/0/3          Cost    : 0

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

Destination: 3::/64          Protocol : Direct
NextHop   : ::                Preference: 0
Interface : GE1/0/4          Cost    : 0

Destination: 3::2/128        Protocol : Direct
NextHop   : ::1              Preference: 0
Interface : InLoop0          Cost    : 0

Destination: 4::/64          Protocol : O_ASE2
NextHop   : FE80::3453:50FF:FE8B:108 Preference: 150
Interface : GE1/0/3          Cost    : 1

Destination: 4::1/128        Protocol : O_INTRA
NextHop   : FE80::3453:50FF:FE8B:108 Preference: 10
Interface : GE1/0/3          Cost    : 1

Destination: 5::/64          Protocol : Direct
NextHop   : ::                Preference: 0
Interface : Loop1            Cost    : 0

Destination: 5::1/128        Protocol : Direct
NextHop   : ::1              Preference: 0
Interface : InLoop0          Cost    : 0

Destination: 6::/64          Protocol : RIPng
NextHop   : FE80::3453:66FF:FE89:309 Preference: 100
Interface : GE1/0/4          Cost    : 1

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]

[FW3]dis ipv6 routing-table

Destinations : 12 Routes : 12

```

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

Destination: 1::/64          Protocol : RIPng
NextHop   : FE80::3453:5DFF:FEAA:209 Preference: 100
Interface : GE1/0/4          Cost    : 1

Destination: 2::/64          Protocol : RIPng
NextHop   : FE80::3453:5DFF:FEAA:209 Preference: 100
Interface : GE1/0/4          Cost    : 1

Destination: 3::/64          Protocol : Direct
NextHop   : ::                Preference: 0
Interface : GE1/0/4          Cost    : 0

```

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

Destination: 4::/64           Protocol : RIPng
NextHop  : FE80::3453:5DFF:FEAA:209 Preference: 100
Interface : GE1/0/4           Cost    : 1

Destination: 4::1/128         Protocol : RIPng
NextHop  : FE80::3453:5DFF:FEAA:209 Preference: 100
Interface : GE1/0/4           Cost    : 1

Destination: 5::/64           Protocol : RIPng
NextHop  : FE80::3453:5DFF:FEAA:209 Preference: 100
Interface : GE1/0/4           Cost    : 1

Destination: 6::/64           Protocol : Direct
NextHop  : ::                 Preference: 0
Interface : Loop1             Cost    : 0

Destination: 6::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
[FW3]
```

至此， F1060 OSPFV3与RIPng路由重分布典型组网配置案例已完成！