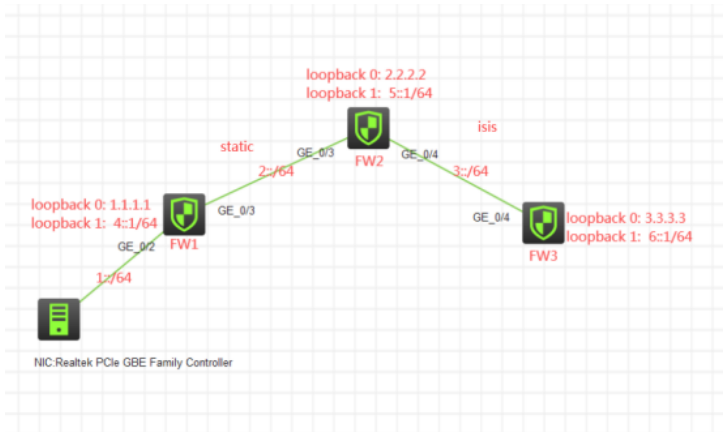


知 F1060 IPV6 ISIS与静态路由重分布典型组网配置案例

设备部署方式 H3C模拟器 韦家宁 2020-03-15 发表

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 ISIS与静态路由重分布的典型组网配置。FW1与FW2运行静态路由协议，FW2与FW3运行ISIS路由协议，为了实现物理机能够PING通FW3，因此需要在FW2配置ISIS与静态路由重分布。

配置步骤

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

配置关键点

FW1 :

```
<H3C>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 <connect to FW2>
[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 静态路由配置关键点:

```
[FW1]ipv6 route-static 3:: 64 2::2
[FW1]ipv6 route-static 6:: 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]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 <connect to FW1>
[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 <connect to FW3>
[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 静态路由与ISIS重分布配置关键点:

```
[FW2]isis 1
[FW2-isis-1]is-level level-1
[FW2-isis-1]network-entity 10.0000.0000.0001.00
[FW2-isis-1]address-family ipv6 unicast
[FW2-isis-1-ipv6]import-route direct
[FW2-isis-1-ipv6]import-route static level-1
[FW2-isis-1-ipv6]quit
[FW2-isis-1]quit
[FW2]ipv6 route-static 1:: 64 2::1
```

FW3 :

```
<H3C>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]
```

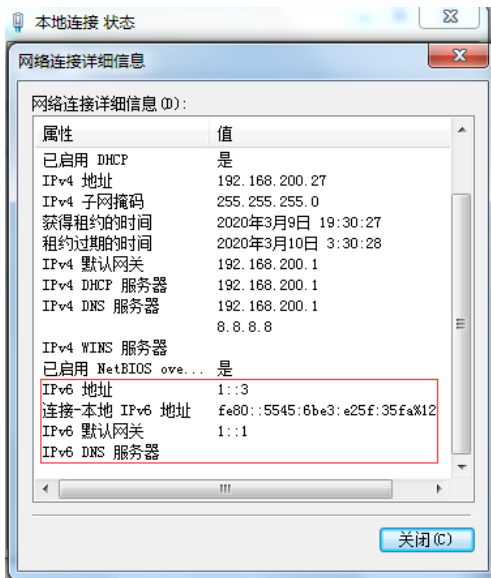
```
[FW3]zone-pair security source untrust destination local
[FW3-zone-pair-security-Untrust-Local]packet-filter ipv6 2001
[FW3-zone-pair-security-Untrust-Local]quit
[FW3]
[FW3]zone-pair security source local destination untrust
[FW3-zone-pair-security-Local-Untrust]packet-filter ipv6 2001
[FW3-zone-pair-security-Local-Untrust]quit
[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 <connect to FW2>
[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 ISIS关键配置点:

```
[FW3]isis 1
[FW3-isis-1]is-level level-1
[FW3-isis-1]network-entity 10.0000.0000.0002.00
[FW3-isis-1]address-family ipv6 unicast
[FW3-isis-1-ipv6]import-route direct
[FW3-isis-1-ipv6]quit
[FW3-isis-1]quit
[FW3]int gi 1/0/4
[FW3-GigabitEthernet1/0/4]isis ipv6 enable 1
[FW3-GigabitEthernet1/0/4]quit
[FW3]int LoopBack 1
[FW3-LoopBack1]isis ipv6 enable 1
[FW3-LoopBack1]quit
```

测试:

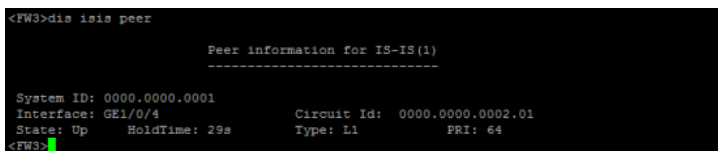
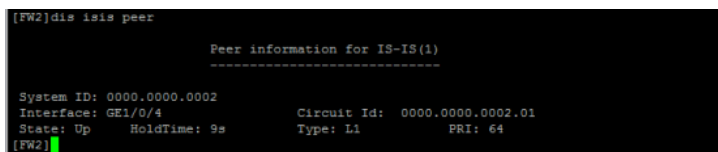
物理机填写IPV6地址:



物理机能PING通FW3的loopback1:



分别查看FW2、FW3的ISIS邻居信息:



分别查看FW1、FW2、FW3的IPV6路由表:

[FW1]dis ipv6 routing-table

Destinations : 11 Routes : 11

```

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 : Static
NextHop : 2::2 Preference: 60
Interface : GE1/0/3 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: 6::/64 Protocol : Static
NextHop : 2::2 Preference: 60
Interface : GE1/0/3 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 : 11 Routes : 11

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

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

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: 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 : IS_L1
NextHop   : FE80::547B:C7FF:FE20:309 Preference: 15
Interface : GE1/0/4                Cost    : 10

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 : 8 Routes : 8

```

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

Destination: 1::/64                Protocol : IS_L1
NextHop   : FE80::547B:C2FF:FED7:209 Preference: 15
Interface : GE1/0/4                Cost    : 10

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: 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 IPV6 ISIS与静态路由重分布典型组网配置案例已完成！

