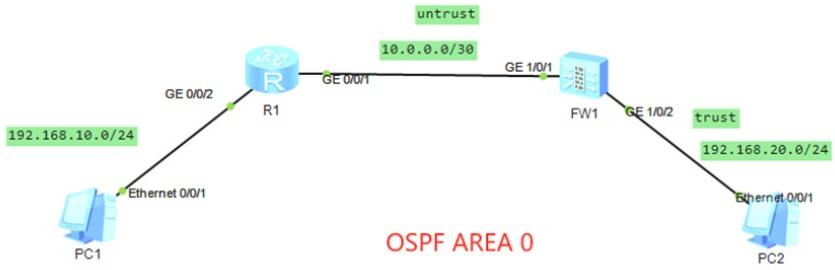
【MVS】华为防火墙路由模式典型组网配置案例-OSPF

网络相关 韦家宁 2024-09-13 发表

组网及说明



组网说明:

本案例采用ENSP模拟器的防火墙来部署路由模式的典型配置，安全域在网络拓扑图中已经有了明确的标识，全网通过OSPF路由协议实现PC之间的互通。

配置思路:

1、按照网络拓扑图配置IP地址和OSPF。

2、配置防火墙的安全域和安全策略。

配置步骤

R1:

```
<Huawei>u t m
Info: Current terminal monitor is off.
<Huawei>u t d
Info: Current terminal debugging is off.
<Huawei>system
Enter system view, return user view with Ctrl+Z.
[Huawei]sysname R1
[R1]int gi 0/0/2
[R1-GigabitEthernet0/0/2]ip address 192.168.10.1 24
[R1-GigabitEthernet0/0/2]quit
[R1]int gi 0/0/1
[R1-GigabitEthernet0/0/1]ip address 10.0.0.1 30
[R1-GigabitEthernet0/0/1]quit
[R1]ospf 1 router-id 10.0.0.1
[R1-ospf-1]area 0.0.0.0
[R1-ospf-1-area-0.0.0.0]network 10.0.0.0 0.0.0.3
[R1-ospf-1-area-0.0.0.0]network 192.168.10.0 0.0.0.255
[R1-ospf-1-area-0.0.0.0]quit
[R1-ospf-1]quit
```

FW1:

```
<USG6000V1>u t m
Info: Current terminal monitor is off.
<USG6000V1>u t d
Info: Current terminal debugging is off.
<USG6000V1>system
Enter system view, return user view with Ctrl+Z.
[USG6000V1]sysname FW1
[FW1]int gi 1/0/1
[FW1-GigabitEthernet1/0/1]ip address 10.0.0.2 30
[FW1-GigabitEthernet1/0/1]quit
[FW1]int gi 1/0/2
[FW1-GigabitEthernet1/0/2]ip address 192.168.20.1 24
```

```
[FW1-GigabitEthernet1/0/2]quit
[FW1]ospf 1 router-id 10.0.0.2
[FW1-ospf-1]area 0.0.0.0
[FW1-ospf-1-area-0.0.0.0]network 10.0.0.0 0.0.0.3
[FW1-ospf-1-area-0.0.0.0]network 192.168.20.0 0.0.0.255
[FW1-ospf-1-area-0.0.0.0]quit
[FW1-ospf-1]quit
[FW1]firewall zone trust
[FW1-zone-trust]add int gi 1/0/2
[FW1-zone-trust]quit
[FW1]firewall zone untrust
[FW1-zone-untrust]add int gi 1/0/1
[FW1-zone-untrust]quit
[FW1]security-policy
[FW1-policy-security]default action permit
Warning:Setting the default packet filtering to permit poses security risks. You
 are advised to configure the security policy based on the actual data flows. Ar
e you sure you want to continue?[Y/N]y
[FW1-policy-security]quit
```

使用dis ospf peer命令分别查看FW1和R1的OSPF邻居关系建立的情况，已完成建立！

```
[FW1]dis ospf peer
2024-09-13 03:26:06.990

       OSPF Process 1 with Router ID 10.0.0.2
             Neighbors

 Area 0.0.0.0 interface 10.0.0.2(GigabitEthernet1/0/1)'s neighbors
 Router ID: 10.0.0.1         Address: 10.0.0.1
   State: Full  Mode:Nbr is  Slave  Priority: 1
   DR: 10.0.0.1  BDR: 10.0.0.2  MTU: 0
   Dead timer due in 34  sec
   Retrans timer interval: 5
   Neighbor is up for 00:00:42
   Authentication Sequence: [ 0 ]

[FW1]
```

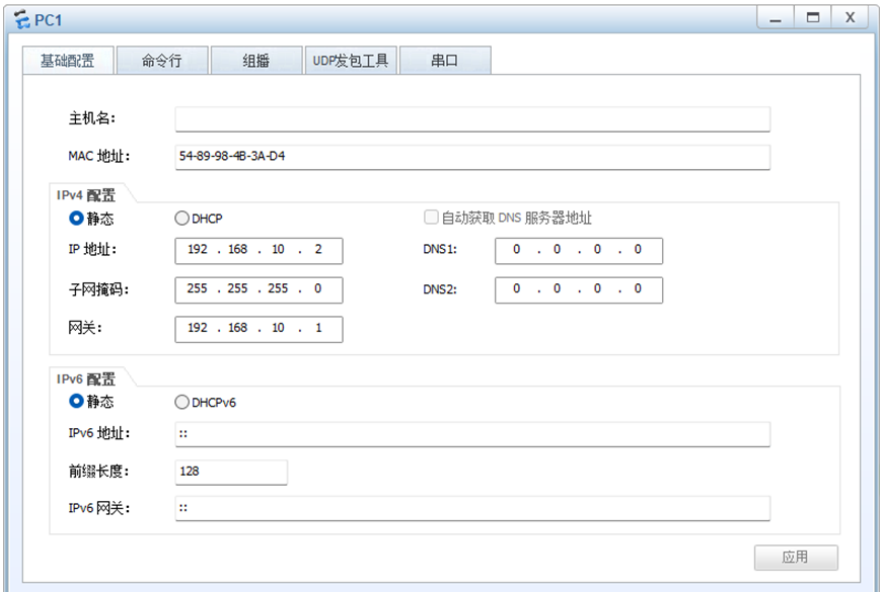
```
[R1]dis ospf peer

      OSPF Process 1 with Router ID 10.0.0.1
            Neighbors

 Area 0.0.0.0 interface 10.0.0.1(GigabitEthernet0/0/1)'s neighbors
 Router ID: 10.0.0.2         Address: 10.0.0.2
   State: Full  Mode:Nbr is  Master  Priority: 1
   DR: 10.0.0.1  BDR: 10.0.0.2  MTU: 0
   Dead timer due in 36  sec
   Retrans timer interval: 5
   Neighbor is up for 00:01:31
   Authentication Sequence: [ 0 ]
```

使用dis ip routing-table命令查看FW1和R1的路由表，均能学习到对端传递过来的路由。

```
[FW1]dis ip routing-table
2024-09-13 03:27:36.510
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
         Destinations : 7        Routes : 7

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface

       10.0.0.0/30  Direct  0    0           D   10.0.0.2        GigabitEthernet
1/0/1
       10.0.0.2/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
1/0/1
      127.0.0.0/8   Direct  0    0           D   127.0.0.1       InLoopBack0
      127.0.0.1/32  Direct  0    0           D   127.0.0.1       InLoopBack0
   192.168.10.0/24  OSPF    10   2           D   10.0.0.1        GigabitEthernet
1/0/1
   192.168.20.0/24  Direct  0    0           D   192.168.20.1    GigabitEthernet
1/0/2
   192.168.20.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
1/0/2
```

```
[R1]dis ip routing-table
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
         Destinations : 7        Routes : 7

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface

        10.0.0.0/30  Direct  0    0           D   10.0.0.1        GigabitEthernet
0/0/1
        10.0.0.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
       127.0.0.0/8   Direct  0    0           D   127.0.0.1       InLoopBack0
       127.0.0.1/32  Direct  0    0           D   127.0.0.1       InLoopBack0
    192.168.10.0/24  Direct  0    0           D   192.168.10.1    GigabitEthernet
0/0/2
    192.168.10.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/2
    192.168.20.0/24  OSPF    10   2           D   10.0.0.2        GigabitEthernet
0/0/1
```

PC分别填写IP地址，且能相互PING通。



PC1

基础配置 | 命令行 | 组播 | UDP发包工具 | 串口

```
Welcome to use PC Simulator!

PC>ping 192.168.20.2

Ping 192.168.20.2: 32 data bytes, Press Ctrl_C to break
Request timeout!
From 192.168.20.2: bytes=32 seq=2 ttl=126 time=31 ms
From 192.168.20.2: bytes=32 seq=3 ttl=126 time=16 ms
From 192.168.20.2: bytes=32 seq=4 ttl=126 time=31 ms
From 192.168.20.2: bytes=32 seq=5 ttl=126 time=31 ms

--- 192.168.20.2 ping statistics ---
  5 packet(s) transmitted
  4 packet(s) received
  20.00% packet loss
  round-trip min/avg/max = 0/27/31 ms

PC>
```

PC2

基础配置 | 命令行 | 组播 | UDP发包工具 | 串口

```
Welcome to use PC Simulator!

PC>ping 192.168.10.2

Ping 192.168.10.2: 32 data bytes, Press Ctrl_C to break
From 192.168.10.2: bytes=32 seq=1 ttl=126 time=47 ms
From 192.168.10.2: bytes=32 seq=2 ttl=126 time=31 ms
From 192.168.10.2: bytes=32 seq=3 ttl=126 time=31 ms
From 192.168.10.2: bytes=32 seq=4 ttl=126 time=31 ms
From 192.168.10.2: bytes=32 seq=5 ttl=126 time=32 ms

--- 192.168.10.2 ping statistics ---
  5 packet(s) transmitted
  5 packet(s) received
  0.00% packet loss
  round-trip min/avg/max = 31/34/47 ms

PC>
```

至此，华为防火墙路由模式典型组网配置案例（OSPF）已完成！