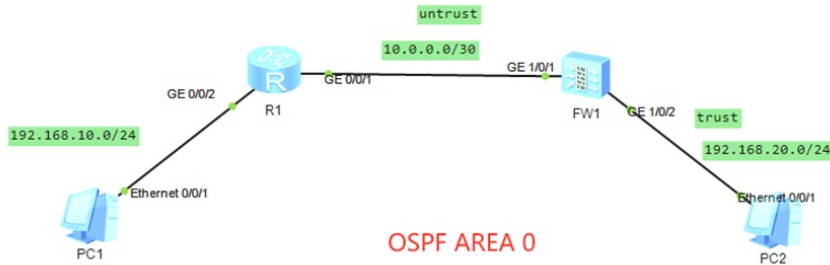


【MVS】华为防火墙路由模式典型组网配置案例-OSPF

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。

The screenshot shows the configuration window for PC1. It includes fields for Hostname, MAC address (54-89-98-4B-3A-D4), and IPv4/IPv6 settings. The IPv4 configuration is set to static with IP 192.168.10.2, subnet mask 255.255.255.0, and gateway 192.168.10.1. DNS servers are set to 0.0.0.0. The IPv6 configuration is also static with a prefix length of 128.

The screenshot shows the configuration window for PC2. It includes fields for Hostname, MAC address (54-89-98-CF-73-AE), and IPv4/IPv6 settings. The IPv4 configuration is set to static with IP 192.168.20.2, subnet mask 255.255.255.0, and gateway 192.168.20.1. DNS servers are set to 0.0.0.0. The IPv6 configuration is also static with a prefix length of 128.

```
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！