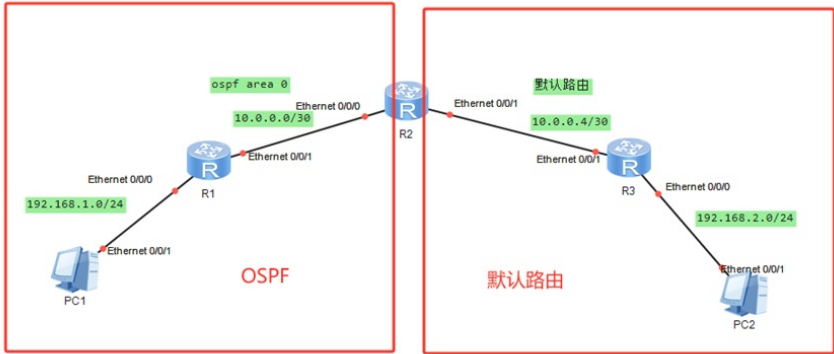


组网及说明



本案例采用ENSP模拟器来部署华为路由器的路由重分布的案例，在该网络中，R1与R2部署OSPF，R2与R3部署默认路由。为了实现PC之间的网络互通，需要在R2路由器部署OSPF与默认路由重分布。

配置步骤

- 1、按照网络拓扑图配置IP地址。
- 2、部署R1与R2的OSPF。
- 3、部署R2与R3的默认路由。
- 4、在R2配置OSPF与默认路由重分布。

配置关键点

R1:

```
<Huawei>sys
Enter system view, return user view with Ctrl+Z.
[Huawei]quit
<Huawei>u t m
Info: Current terminal monitor is off.
<Huawei>u t d
Info: Current terminal debugging is off.
<Huawei>sys
Enter system view, return user view with Ctrl+Z.
[Huawei]sysname R1
[R1]int eth 0/0/0
[R1-Ethernet0/0/0]ip address 192.168.1.1 24
[R1-Ethernet0/0/0]quit
[R1]int eth 0/0/1
[R1-Ethernet0/0/1]ip address 10.0.0.1 30
[R1-Ethernet0/0/1]quit
[R1]ospf 1
[R1-ospf-1]area 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 192.168.1.0 0.0.0.255
[R1-ospf-1-area-0.0.0.0]quit
[R1-ospf-1]quit
```

R2:

```
<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 R2
[R2]int eth 0/0/0
[R2-Ethernet0/0/0]ip address 10.0.0.2 30
[R2-Ethernet0/0/0]quit
```

```
[R2]int eth 0/0/1
[R2-Ethernet0/0/1]ip address 10.0.0.5 30
[R2-Ethernet0/0/1]quit
[R2]ip route-static 0.0.0.0 0.0.0.0 10.0.0.6 //配置默认路由指向到R3
[R2]ospf 1
[R2-ospf-1]default-route-advertise //将默认路由重发布到OSPF
[R2-ospf-1]area 0.0.0.0
[R2-ospf-1-area-0.0.0.0]network 10.0.0.0 0.0.0.3
[R2-ospf-1-area-0.0.0.0]network 10.0.0.4 0.0.0.3
[R2-ospf-1-area-0.0.0.0]quit
[R2-ospf-1]quit
```

R3:

```
<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 R3
[R3]int eth 0/0/0
[R3-Ethernet0/0/0]ip address 192.168.2.1 24
[R3-Ethernet0/0/0]quit
[R3]int eth 0/0/1
[R3-Ethernet0/0/1]ip address 10.0.0.6 30
[R3-Ethernet0/0/1]quit
[R3]ip route-static 0.0.0.0 0.0.0.0 10.0.0.5
```

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

主机名:

MAC 地址:

IPv4 配置

☒ 静态 ☐ DHCP ☐ 自动获取 DNS 服务器地址

IP 地址: DNS 1:

子网掩码: DNS 2:

网关:

IPv6 配置

☒ 静态 ☐ DHCPv6

IPv6 地址:

前缀长度:

IPv6 网关:

应用

PC2

基础配置 命令行 组播 UDP发包工具 串口

主机名:

MAC 地址:

IPv4 配置

☒ 静态 ☐ DHCP ☐ 自动获取 DNS 服务器地址

IP 地址: DNS1:

子网掩码: DNS2:

网关:

IPv6 配置

☒ 静态 ☐ DHCPv6

IPv6 地址:

前缀长度:

IPv6 网关:

应用

PC1

基础配置 命令行 组播 UDP发包工具 串口

```
Welcome to use PC Simulator!

PC>ping 192.168.2.2

Ping 192.168.2.2: 32 data bytes, Press Ctrl_C to break
From 192.168.2.2: bytes=32 seq=1 ttl=125 time=203 ms
From 192.168.2.2: bytes=32 seq=2 ttl=125 time=109 ms
From 192.168.2.2: bytes=32 seq=3 ttl=125 time=141 ms
From 192.168.2.2: bytes=32 seq=4 ttl=125 time=172 ms
From 192.168.2.2: bytes=32 seq=5 ttl=125 time=140 ms

--- 192.168.2.2 ping statistics ---
 5 packet(s) transmitted
 5 packet(s) received
 0.00% packet loss
 round-trip min/avg/max = 109/153/203 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 192.168.1.2

Ping 192.168.1.2: 32 data bytes, Press Ctrl_C to break
From 192.168.1.2: bytes=32 seq=1 ttl=125 time=156 ms
From 192.168.1.2: bytes=32 seq=2 ttl=125 time=125 ms
From 192.168.1.2: bytes=32 seq=3 ttl=125 time=110 ms
From 192.168.1.2: bytes=32 seq=4 ttl=125 time=93 ms
From 192.168.1.2: bytes=32 seq=5 ttl=125 time=156 ms

--- 192.168.1.2 ping statistics ---
 5 packet(s) transmitted
 5 packet(s) received
 0.00% packet loss
 round-trip min/avg/max = 93/128/156 ms
```

在R1与R2分别使用dis ospf peer brief命令看到R1、R2已完成OSPF邻居的建立。

```
[R1]dis ospf peer brief

      OSPF Process 1 with Router ID 192.168.1.1
      Peer Statistic Information
-----
Area Id      Interface      Neighbor id    State
0.0.0.0      Ethernet0/0/1  10.0.0.2      Full
-----
[R1]
```

```
[R2]dis ospf peer brief

      OSPF Process 1 with Router ID 10.0.0.2
      Peer Statistic Information
-----
Area Id      Interface      Neighbor id  State
0.0.0.0      Ethernet0/0/0    192.168.1.1  Full
-----
[R2]
```

分别在R1、R2、R3使用dis ip routing-table命令查看路由表，均已学习到了相应的路由。

```
[R1]dis ip routing-table
Route Flags: R - relay, D - download to fib
-----
Routing Tables: Public
      Destinations : 8          Routes : 8

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface
-----
0.0.0.0/0           O_ASE   150  1          D    10.0.0.2          Ethernet0/0/1
10.0.0.0/30         Direct  0    0          D    10.0.0.1          Ethernet0/0/1
10.0.0.1/32         Direct  0    0          D    127.0.0.1          Ethernet0/0/1
10.0.0.4/30         OSPF    10   2          D    10.0.0.2          Ethernet0/0/1
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
192.168.1.0/24      Direct  0    0          D    192.168.1.1       Ethernet0/0/0
192.168.1.1/32      Direct  0    0          D    127.0.0.1          Ethernet0/0/0
-----
[R1]
```

```
[R2]dis ip routing-table
Route Flags: R - relay, D - download to fib
-----
Routing Tables: Public
      Destinations : 8          Routes : 8

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface
-----
0.0.0.0/0           Static  60   0          RD   10.0.0.6          Ethernet0/0/1
10.0.0.0/30         Direct  0    0          D    10.0.0.2          Ethernet0/0/0
10.0.0.2/32         Direct  0    0          D    127.0.0.1          Ethernet0/0/0
10.0.0.4/30         Direct  0    0          D    10.0.0.5          Ethernet0/0/1
10.0.0.5/32         Direct  0    0          D    127.0.0.1          Ethernet0/0/1
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
192.168.1.0/24      OSPF    10   2          D    10.0.0.1          Ethernet0/0/0
-----
[R2]
```

```
[R3]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
-----
0.0.0.0/0           Static  60   0          RD   10.0.0.5          Ethernet0/0/1
10.0.0.4/30         Direct  0    0          D    10.0.0.6          Ethernet0/0/1
10.0.0.6/32         Direct  0    0          D    127.0.0.1          Ethernet0/0/1
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
192.168.2.0/24      Direct  0    0          D    192.168.2.1       Ethernet0/0/0
192.168.2.1/32      Direct  0    0          D    127.0.0.1          Ethernet0/0/0
-----
[R3]
```

至此，华为路由器OSPF与默认路由典型组网配置案例已完成。