RIP实验配置说明

路由器的接口ip配置：

R1:

Router(config)#int fa 0/0

Router(config-if)#ip add 12.12.12.1 255.255.255.0

Router(config-if)#no sh

Router(config-if)#exit

Router(config)#int s 0/0/0

Router(config-if)#ip add 10.1.13.1 255.255.255.0

Router(config-if)#no sh

Router(config-if)#exit

Router(config)#int e 1/0

Router(config-if)#ip add 172.16.1.1 255.255.255.0

Router(config-if)#no sh

Router(config-if)#exit

Router(config)#int e 1/1

Router(config-if)#ip add 172.16.2.1 255.255.255.0

Router(config-if)#no sh

Router(config-if)#exit

Router(config)#int e 1/2

Router(config-if)#ip add 172.16.3.1 255.255.255.0

Router(config-if)#no sh

Router(config-if)#exit

Router(config)#int lo0

Router(config-if)#ip add 1.1.1.1 255.255.255.0

Router(config-if)#exit

R2:

Router(config)#int lo0

Router(config-if)#ip add 2.2.2.2 255.255.255.0

Router(config-if)#exit

Router(config)#int fa 0/0

Router(config-if)#ip add 12.12.12.2 255.255.255.0

Router(config-if)#no sh

Router(config-if)#exit

Router(config)#int fa 0/1

Router(config-if)#ip add 10.1.23.2 255.255.255.0

Router(config-if)#no sh

Router(config-if)#exit

R3:

Router(config)#int fa 0/1

Router(config-if)#ip add 10.1.23.3 255.255.255.0

Router(config-if)#no sh

Router(config-if)#exit

Router(config)#int s 0/0/0

Router(config-if)#ip add 10.1.13.3 255.255.255.0

Router(config-if)#no sh

Router(config-if)#exit

Router(config)#int lo0

Router(config-if)#ip add 3.3.3.3 255.255.255.0

Router(config-if)#exit

需求1:启用rip2协议且把所有路由器接口都加入到rip中

R1：

Router(config)#router rip

Router(config-router)#version 2

Router(config-router)#net 1.0.0.0

Router(config-router)#net 12.0.0.0

Router(config-router)#net 10.0.0.0

Router(config-router)#net 172.16.0.0

Router(config-router)#exit

R2：

Router(config)#router rip

Router(config-router)#version 2

Router(config-router)#net 2.0.0.0

Router(config-router)#net 12.0.0.0

Router(config-router)#net 10.0.0.0

Router(config-router)#exit

R3：

Router(config)#router rip

Router(config-router)#version 2

Router(config-router)#net 3.0.0.0

Router(config-router)#net 10.0.0.0

Router(config-router)#exit

需求2：所有路由器关闭自动汇总功能

R1、R2、R3：

Router(config)#router rip

Router(config-router)#no auto-summary

Router(config-router)#exit

需求三：在 R3 上观察去 12.12.12.0 网段有几个下一跳，配置 R3 与 R1 之间接口不接收也不发送 RIP 更新，使 R3 去 12.12.12.0 网段只有一个下一跳；

R3：

Router(config)#router rip

Router(config-router)#passive-interface s 0/0/0

Router(config-router)#exit

Router(config)#

需求四：在 R1 上将 172.16.0.0 的network 去掉，R2 和 R3 这个时候没有路由能够到达 172.16.0.0，配置 R1 通告一条默认路由给 R2 和 R3

R1：

Router(config)#router rip

Router(config-router)#default-information originate

Router(config-router)#exit

测试结果：

R1的路由表：

Router#sh ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is not set

1.0.0.0/24 is subnetted, 1 subnets

C 1.1.1.0 is directly connected, Loopback0

2.0.0.0/24 is subnetted, 1 subnets

R 2.2.2.0 [120/1] via 12.12.12.2, 00:00:24, FastEthernet0/0

10.0.0.0/24 is subnetted, 2 subnets

C 10.1.13.0 is directly connected, Serial0/0/0

R 10.1.23.0 [120/1] via 12.12.12.2, 00:00:24, FastEthernet0/0

12.0.0.0/24 is subnetted, 1 subnets

C 12.12.12.0 is directly connected, FastEthernet0/0

172.16.0.0/24 is subnetted, 3 subnets

C 172.16.1.0 is directly connected, Ethernet1/0

C 172.16.2.0 is directly connected, Ethernet1/1

C 172.16.3.0 is directly connected, Ethernet1/2

Router#

R2的路由表：

Router#sh ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is 12.12.12.1 to network 0.0.0.0

1.0.0.0/8 is variably subnetted, 2 subnets, 2 masks

R 1.0.0.0/8 [120/1] via 12.12.12.1, 00:00:16, FastEthernet0/0

R 1.1.1.0/24 [120/1] via 12.12.12.1, 00:00:07, FastEthernet0/0

2.0.0.0/24 is subnetted, 1 subnets

C 2.2.2.0 is directly connected, Loopback0

10.0.0.0/24 is subnetted, 2 subnets

R 10.1.13.0 [120/1] via 12.12.12.1, 00:00:07, FastEthernet0/0

C 10.1.23.0 is directly connected, FastEthernet0/1

12.0.0.0/24 is subnetted, 1 subnets

C 12.12.12.0 is directly connected, FastEthernet0/0

R\* 0.0.0.0/0 [120/1] via 12.12.12.1, 00:00:07, FastEthernet0/0

Router#

R3的路由表：

Router#sh ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is 10.1.23.2 to network 0.0.0.0

1.0.0.0/24 is subnetted, 1 subnets

R 1.1.1.0 [120/2] via 10.1.23.2, 00:00:05, FastEthernet0/1

R 2.0.0.0/8 [120/1] via 10.1.23.2, 00:00:05, FastEthernet0/1

3.0.0.0/24 is subnetted, 1 subnets

C 3.3.3.0 is directly connected, Loopback0

10.0.0.0/24 is subnetted, 2 subnets

C 10.1.13.0 is directly connected, Serial0/0/0

C 10.1.23.0 is directly connected, FastEthernet0/1

R 12.0.0.0/8 [120/1] via 10.1.23.2, 00:00:05, FastEthernet0/1

R\* 0.0.0.0/0 [120/2] via 10.1.23.2, 00:00:05, FastEthernet0/1

Router#