Typical Configuration Of OSPF Imported Route Summary on AR28、AR46 Series Routers

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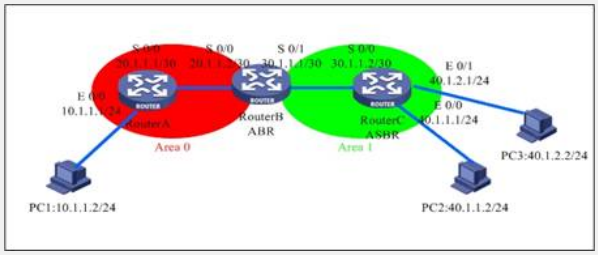
[Requirements]

In an OSPF AS, Routers A and B run in area 0; Routers B and C run in area 1; Router B serves as the ABR.

Two Ethernet interfaces of Router C are located in area 1, respectively belonging to 40.1.1.0/24 and 40.1.2.0/24 network segments. They are imported to the OSPF through **import direct**.

It is required to perform route summary on the ASBR to summarize the above two segments to 40.1.0.0/16.

[Networking diagram]



[Configuration script]

Configuration script on Router A
sysname RouterA # router id 1.1.1.1 # radius scheme system # domain system # interface Ethernet0/0 ip address 10.1.1.1 255.255.255.0 # interface Serial0/0 link-protocol ppp ip address 20.1.1.1 255.255.255.252 # interface NULL0 # interface LoopBack0 ip address 1.1.1.1 255.255.255.255 # ospf 1 area 0.0.0.0 network 1.1.1.1 0.0.0.0 network 10.1.1.0 0.0.0.255 network 20.1.1.0 0.0.0.3 # user-interface con 0 user-interface vty 0 4 # return
Configuration script on Router B

```
#
sysname RouterB
#
router id 1.1.1.2
#
radius scheme system
#
domain system
#
interface Seria0/0
link-protocol ppp
ip address 20.1.1.2 255.255.255.252
#
interface Serial0/1
link-protocol ppp
ip address 30.1.1.1 255.255.255.252
#
interface NULL0
#
interface LoopBack0
ip address 1.1.1.2 255.255.255.255
#
ospf 1
area 0.0.0.1
network 30.1.1.0 0.0.0.3
#
area 0.0.0.0
network 1.1.1.2 0.0.0.0
network 20.1.1.0 0.0.0.3
#
user-interface con 0
user-interface vty 0 4
#
return
```

Configuration script on Router C

```
#
sysname RouterC
#
router id 1.1.1.3
#
radius scheme system
#
domain system
#
interface Ethernet0/0
ip address 40.1.1.1 255.255.255.0
#
interface Ethernet0/1
ip address 40.1.2.1 255.255.255.0
#
interface Serial0/0
link-protocol ppp
ip address 30.1.1.2 255.255.255.252
#
interface NULL0
#
interface LoopBack0
ip address 1.1.1.3 255.255.255.255
#
ospf 1
asbr-summary 40.1.0.0 255.255.0.0  /Summarize the imported route/
import-route direct                /Import the direct route for the interface/
area 0.0.0.1
network 1.1.1.3 0.0.0.0
network 30.1.1.0 0.0.0.3
#
user-interface con 0
user-interface vty 0 4
#
return
```

[Verification]

Routers can learn the routes of the whole network through OSPF, and their network segments can be pinged mutually.

Routing table of Router A:

```
<RouterA>disp ip rout
Routing Table: public net
Destination/Mask   Protocol Pre  Cost        Nexthop         Interface
1.1.1.1/32         DIRECT   0    0           127.0.0.1       InLoopBack0
1.1.1.2/32         OSPF     10   1563        20.1.1.2        Serial0/0
1.1.1.3/32         OSPF     10   3125        20.1.1.2        Serial0/0
10.1.1.0/24        DIRECT   0    0           10.1.1.1        Ethernet0/0
10.1.1.1/32        DIRECT   0    0           127.0.0.1       InLoopBack0
```

```
20.1.1.0/30       DIRECT  0    0          20.1.1.1       Serial0/0
20.1.1.1/32       DIRECT  0    0          127.0.0.1      InLoopBack0
20.1.1.2/32       DIRECT  0    0          20.1.1.2       Serial0/0
30.1.1.0/30       OSPF    10   3124       20.1.1.2       Serial0/0
30.1.1.1/32       O_ASE   150  1          20.1.1.2       Serial0/0
40.1.0.0/16       O_ASE   150  2          20.1.1.2       Serial0/0
127.0.0.0/8       DIRECT  0    0          127.0.0.1      InLoopBack0
127.0.0.1/32      DIRECT  0    0          127.0.0.1      InLoopBack0
```

[Tip]

1. In an ordinary area, it is not allowed to summarize the imported routeson the ABR but on the ASBR.
2. In an NSSA area, it is allowed to summarize the imported routes on the ABS.
3. When summary of imported route is configured, the local router serving as the ASBR will summarize the imported Type-5 LSAs in the summary address scope. When the NSSA area is configured, the local router will also summarize the imported Type-7 LSAs in the summary address scope.
4. The local router, if serving as the ABR and the conversion router of NSSA area, will summarize the Type-5 LSAs converted from Type-7 LSAs.